Bel Air™ Installation, Set up, and Configuration Manual

October 1, 2009

Document history

Date	Prepared by	Description
October 5, 2007	Holly Steele	Made the following changes: • Updated manual to include new cable labels • Updated sections 1, 6, 8, and 9 • Added the hardlock to the wiring diagram (section 13) • Included the cable label matrix (section 12) • Reformatted the document to make it easier to read and navigate
April 9, 2008	Terry Lowdon	• Updated the part number for the Pyramid Display.
Oct 28, 2008	Gord Boyechko	• UL AC cord Warning • Series 11 PC connections
Oct 30, 2008	Gord Boyechko	• UL AC Receptacle Notice
Apr 30, 2009	Gord Boyechko	• Cable labels
Jun 24, 2009	Gord Boyechko	• Ball rail brackets • Service address
Sept 4, 2009	Gord Boyechko	• Ball chamber material
Oct 1, 2009	Gord Boyechko	• Replace motor instructions

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- The use of masculine gender terms is to be interpreted as being non-gender specific and is used solely to minimize textual complexity.

*** WARNING ***

AC Cord replacement – if the cord is damaged it must be replaced by a cord or assembly from the manufacturer.

*** IMPORTANT ***

IO box and PC AC cords must be plugged into its own sock outlet. A duplex receptacle is acceptable."

Table of Contents

1 Introduction

Video King® is proud to introduce the PowerPlay Bel Air™ —the most contemporary, high-tech bingo console on the market today!

The wave of the future, our latest generation of bingo consoles – with a sleek, new design – has all the ultimate features bingo hall operators are looking for.

In essence, the best of both worlds – as far as form and functionality – have been merged and transformed …

The PowerPlay Bel Air™ is

- Softly contoured
- Easy to service
- Quiet to run
- Fully loaded with all the latest software.

All these attributes make Bel Air North America's number one choice in bingo consoles.

Standard Features:

- Touch screen, flat-panel monitor with built-in speakers.
- Slant-top design for caller comfort.
- PC technology. Windows XP Operating System.
- Removable front and side panels for easy maintenance.
- Removable motor and base for easy maintenance.
- NTSC camera for live ball image.
- Secure cabinet design with lockable panels.
- Software Controlled Video Switch for enhanced multi-media control.

Software Features:

- Compatible with e-BOS™ gaming systems, including Video King's PowerTouch fixed-base systems, Champion II gaming tablet, and full line of handheld bingo devices.
- Compatible with Bingo Racing software.
- Supports PowerVideo software, for multimedia flashboard displays.
- Integrated presentation software for "in-hall" advertising.
- Advanced Windows-based PowerEdit game program editor.
- Digital image picture-in-picture for live ball display on the game screen.
- Easy-to-follow, on-screen directions and menus.
- Easy back-up of game programs.
- Remote access software for program changes/troubleshooting.
- Full "system-restore" software.
- Built-in verification of all known bingo perms.
- Supports complex pattern definitions, including multi-level, multi-card patterns.

Optional Features:

- Multi-year extended warranty.
- "A" Data signal translator for connection to "A" Data style flashboards.
- Can be configured for right-handed or left-handed callers.

Note

This manual covers many aspects of the Bel Air™ bingo console with the exception of the software. It covers unpacking, installation, set up and servicing of the console. For operation of the bingo console and e-BOS™ software, please see our PowerPlay™ User's manual and e-BOS™ Utilities User's Manual.

2. Unpacking the console

Inspect the shipping containers for possible signs of damage. **If damage is detected, call the carrier to make a claim.**

Use a box cutter to cut the straps from the skid, taking care not to damage the console. With the help of at least one assistant, carefully slide the console from the skid and place it on the floor. Remove the cardboard top. Remove the foam packing inserts from inside the top and slide the cardboard tube up and off the console. A minimum of two people are required to safely unpack the console. With one person lifting from each end of the console, raise the console up and out from the carton and foam inserts. Check that all casters are in place. Do not destroy or discard carton or packing material until after final inspection and testing.

Unpack the keyboard from the cardboard box. Place the keyboard on the electronics cabinet in front of the touch screen monitor. Remove the mouse from the plastic bag and set next to the keyboard. At this point, you should inspect the consoles for any obvious shipping damage. **If any problems are found, immediately contact your distributor for advice.**

3. Installing the console

The Monitor and PC must be installed into the console and connected as described in Connector Layout section of this manual. All other components are pre-assembled. Depending on if a right hand or left hand operation desk is ordered, the monitor will be installed accordingly. The bingo balls are placed in the blower chamber by opening the door at the back of the ball chamber.

4. Electrical installation

Plug the console AC power cord into a 115VAC, 60Hz.outlet

The main AC power input to the Bingo Console should be 115VAC, 60Hz. The power outlet or power cord to the Bingo Console should be wired with 12AWG or 14AWG with ground. The AC power input circuit must be rated for at least 15A and no other hall equipment should share this power source. Do not run long extension cords with inadequate wire gauge from the power source to the console.

The main AC power input may be optionally plugged into an Uninterruptible Power Supply (UPS) to provide power backup in the event that main power is lost. The desk and all its components have a typical maximum power draw of 850W with the blower motor running.

Caution! A power source with abnormal voltage or excessive noise can result in improper console operation and possible damage not covered under warranty.

5. Layout of the devices and controls

The following user accessible devices and controls are located on the desk:

- **Ball Camera and Ball Chute**—located at top of desk.
- **Monitor and Touch Screen**—located on left or right of desk top.
- **Ball Tray** —located on top front of desk.
- **Ball Tray Release** — top control directly below Ball Tray.
- **Ball Chamber Release** —located directly below Ball Tray Release.
- **Ball Chamber Door** —top door in middle back of desk.
- **Blower Motor Door** —bottom door in middle back of desk.
- **Right Door** —PC, Keyboard, and mouse access.
- **Left Door** —Network Switch, Video Switch, and IO Box access.
- **Front Door** —Access to wiring (must remove Left and Right doors first).

6. Connector layouts

This section describes the connection between the major internal components within the desk. The major interconnected components are the; Computer, Monitor, Keyboard, Mouse, I/O Box, Video Switch, Network Switch, Ball Camera, Master Panel (Ball Rail), Fluorescent Lamp, Blower Motor, and Power Block.

See section 13 Wiring diagram, page 32 for a schematic diagram of major component interconnects. See the section 12 Cable label matrix, page 31 for a list of the cables and their label names and numbers.

The following sections show component connectors and connections.

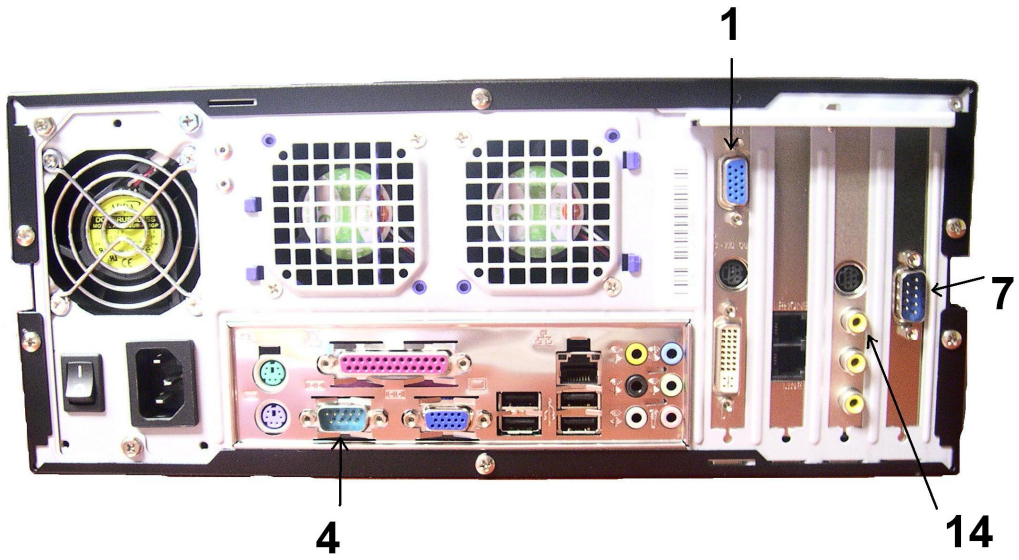


Figure 3: Series 11 PC back

6.1 Computer Back

Figure 1 shows the connectors that you plug the devices into. Figure 2 shows the back of a correctly wired computer. Figure 3 shows the series 11 PC back.

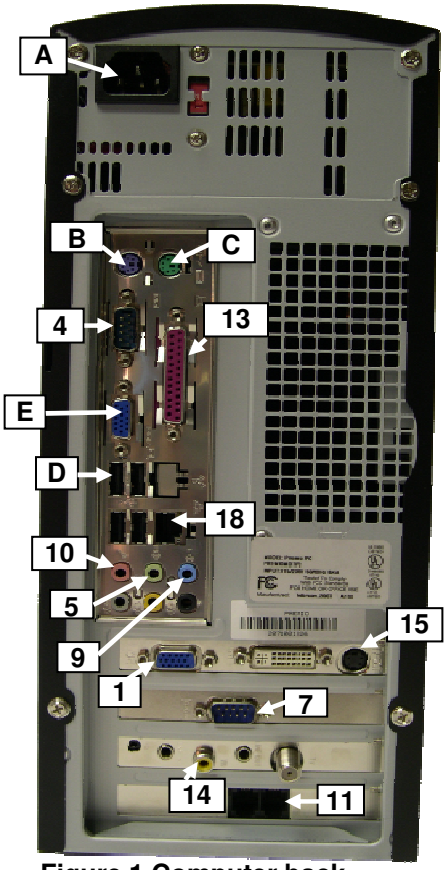


Figure 1 Computer back

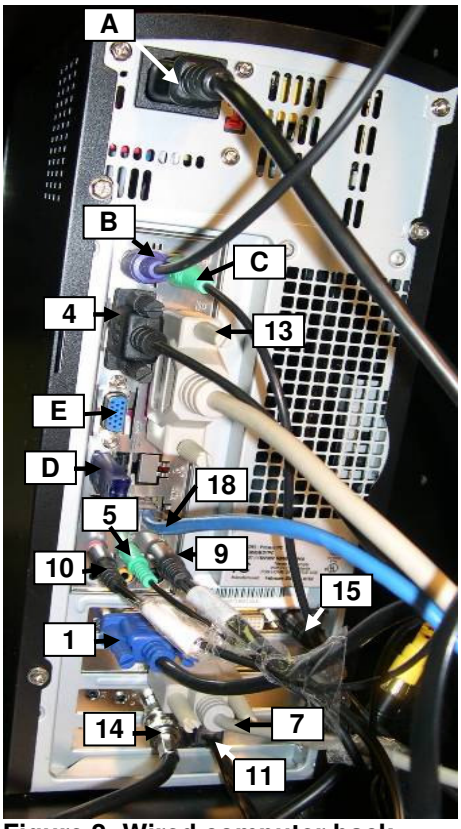


Figure 2: Wired computer back

Legend

A. 120 VAC
B. PS/2 keyboard (purple)
C. PS/2 mouse (green)
D. Hardlock (USB)
E. Not used (VGA)
1. PC VGA (blue)
4. PC Touch screen (serial)
5. PC Audio Out (green)
7. PC I/O box (serial)
9 PC Audio in (blue)
10 PC Mic in (red)
11 PC Modem (Line in)
13 PC Printer (LPT)
14 PC Video in (VGT)
15 PC Video out (to hall monitors)
18 PC LAN

Important notes:

The numbers refer to the cable labels.

The letters refer to unlabeled devices or cables.

If you want the audio to go to the monitor speakers, plug in Monitor Audio In (cable label 5 in Figure 2) from the monitor to the back of the computer (label 5 in Figure 1).

If you want the audio to go to the hall PA system, plug in PC Audio Out PA (label 8) from the I/O box to the back of the computer (label 5 in Figure 1. Cable label 8 is not shown in Figure 2 because cable label 5 is plugged in.

The following interfaces require connection on the back of the computer. The numbers correspond with the cable labels and the letters refer to the unlabeled cables.

A. **120 VAC**—Connect the AC receptacle to the Power Block.

B. **PS/2 Keyboard**—Connect the PS/2 keyboard to this port. The connector is typically green.

C. **PS/2 Mouse**—Connect the PS/2 mouse to this port. The connector is typically purple.

D. **Hardlock**—Connect the USB hard lock it to a standard USB port. If you have a parallel hard lock, connect it to a parallel port.

1. **PC VGA**—Connect the DB15P VGA connector (cable label 1 PC VGA) from the Monitor into this connector.

4. **PC Touch Screen**—Plug the DB9 serial connector (cable label 4 PC Touch Screen) from the Touch Screen Monitor into this connector.

5. **Monitor Audio In**—Plug the 1/8” stereo plug cable (cable label 5 Monitor Audio In) into this connector. The connector is green.

7. **PC IO Box Serial**—Connect the I/O Box DB9P serial cable (cable label 7 PC IO Box Serial) to this port.

9. **PC Audio in**—Plug the 1/8” stereo plug (cable label 9 PC Audio In) into this connector. The connector input is blue.

10. **PC Mic in**—Plug the 1/8” stereo plug cable (cable label 10 PC Mic In) into this connector. The connector input is red.

11. **PC Modem** –Connect the RJ11 plug (cable label 11 PC Modem) from the I/O Box into this connector.

13. **PC Printer**—Connect the DB25P pass through printer cable (cable label 13 PC Printer) from the I/O Box to this port.

14. **PC Video in**—Plug the RCA phono plug (cable label 14 PC Video In) from the Video Switch into this connector.

15. **PC Video out**—Plug the S-Video cable (cable label 15 PC Video Out) from the Video Switch into this connector. Video out goes to the hall monitors.

18. **PC LAN**—Plug the RJ45 Local Area Network cable (cable label 18 PC LAN) from the Network Switch into this connector.

6.2 Monitor External Cables

Figure 3 shows the external cables from the monitor.

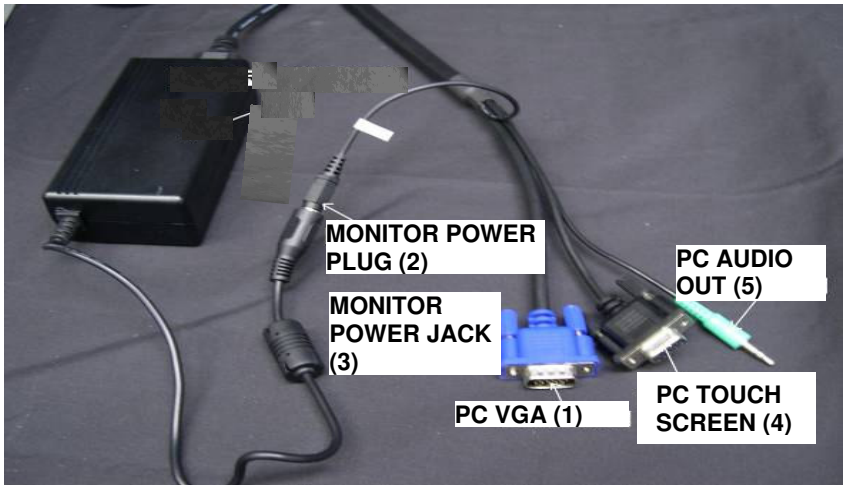


Figure 3: Monitor external cables

Connect the following cables to the computer from the monitor:

1. **PC VGA—**Connect the DB15 VGA cable (cable label 1 PC VGA) to the blue monitor input at the back of the computer (label 1 on Figure 1 Computer back, page 9).

   Do not connect the PC VGA to E (See Figure 1 Computer back, page 9) as this VGA connector is disabled.

2. **Monitor Power Plug** —Connect the DC plug (cable label 2 Monitor Power Plug) into a DC barrel jack (cable label 3 Monitor Power Jack) from the Monitor Power Supply.
3. **Monitor Power Jack—**A 100-240 VAC 50-60Hz to 12VDC 4.16A adapter is used to power the Monitor. Connect the DC Jack (cable label 3 Monitor Power Jack) to the Monitor Power Plug (cable label 2 Monitor Power Plug).
4. **PC Touch Screen**—Connect the DB9 serial connector (cable label 4 PC Touch Screen) to the Touch Screen input on the back of the computer (label 4 on Figure 1 Computer back, page 9).
5. **Monitor Audio In** —Connect the 1/8 inch stereo plug (cable label 5 Monitor Audio In) to green input on the back of the computer (label 5 on Figure 1 Computer back, page 9). **Plug the cable into the monitors, if you want the audio to go to the monitor speakers.**

Note: If you want the audio to go to the hall PA system**,** plug in the 1/8 inch stereo plug from the I/O box (cable label 8 IO box Audio Out) into the back of the computer (label 5 in Figure 1 Computer back, page 9).

6.3 Monitor Internal Cables

Figure 4 shows the monitor internal cable connections.

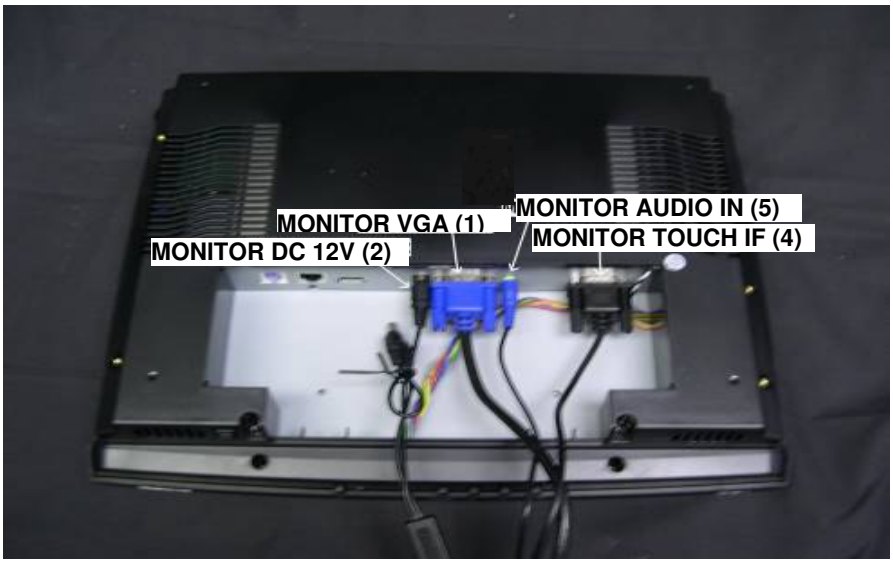


Figure 4: Monitor internal cables

Make the following connections internally to the monitor:

1. **Monitor VGA—**Plug the DB15P VGA connector (cable label 1 Monitor VGA) to the monitor.
2. **Monitor DC 12V**—Plug the DC barrel plug (cable label 2 Monitor DC 12V) into the Monitor DC barrel jack (cable label 3 Monitor Power Jack). There are typically two DC barrel plugs and you can plug either one into the monitor. The second DC plug is unused.
4. **Monitor Touch IF —**Plug the DB9P serial connector (cable label 4 Monitor Touch IF) into the Monitor DB9S connector (cable label 4 PC Touch Screen).
5. **Monitor Audio In—**Connect the 1/8 inch stereo (cable label 5 Monitor Audio In) from the back of the computer (label 5 in Figure 1 Computer back, page 9) into the monitor. **Plug the cable into the monitors, if you want the audio to go to the monitor speakers.**

   Note: If you want the audio to go to the hall PA system instead of the monitors**,** plug in the 1/8 inch stereo plug from the I/O box (cable label 8 IO box Audio Out) into the back of the computer (label 5 in Figure 1 Computer back, page 9).

6.4 PC Video In Cable

Figure 5: PC Video In cable shows the PC Video In Cable.

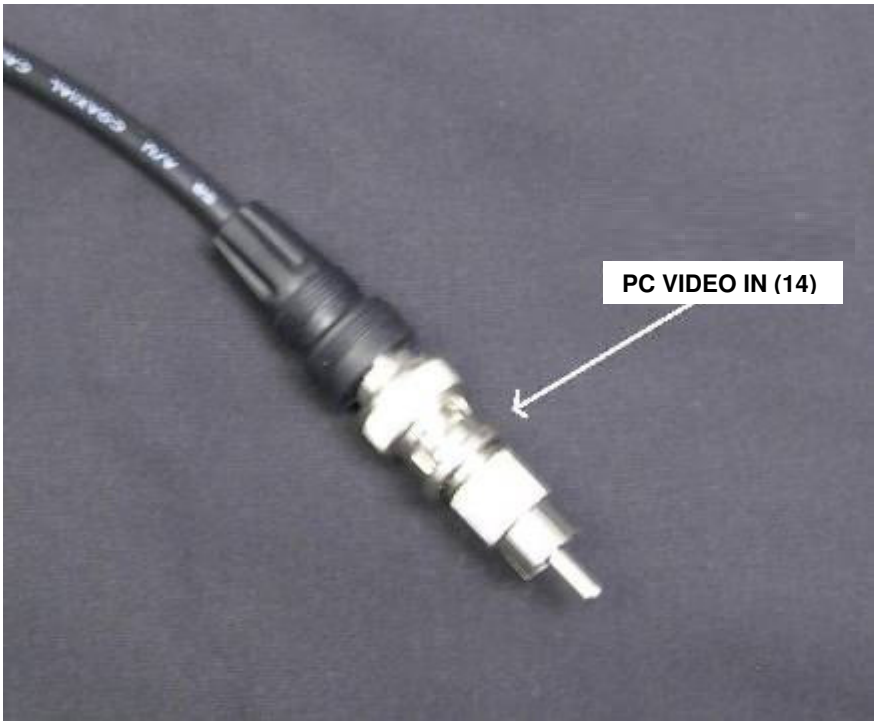


Figure 5: PC Video In cable

The PC Video In Cable (cable label 14 PC Video In) has an RCA type connector on the end. This is typically an RG59 cable with a BNC connector on the end and a BNC to RCA adapter. The PC Video In cable plugs into the Video In connector on the back of the computer (label 5 on Figure 1 Computer back, page 9).

6.5 PC Video Out Cable

Figure 6 shows the PC Video Out Cable.

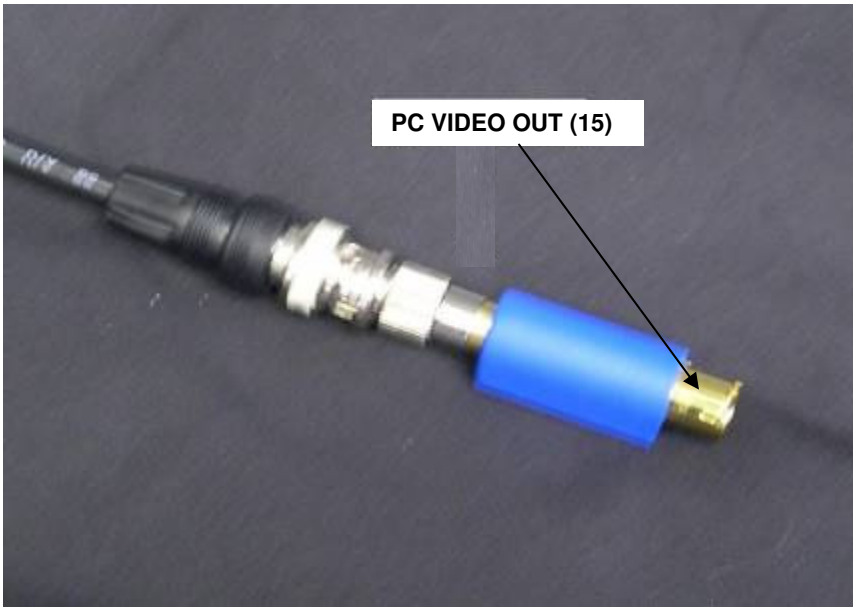


Figure 6: PC Video Out cable

The PC Video out Cable (cable label 15 PC Video Out) has an S-Video type connector on the end. This is typically an RG59 cable with a BNC connector on the end and a BNC to RCA adapter connected to a RCA to S-Video adapter. The PC Video Out cable plugs into the Video Out connector on the back of the Computer (label 15 on Figure 1 Computer back, page 9).

6.6 Wired Video Switch Back

Figure 7 shows the wired video switch back.

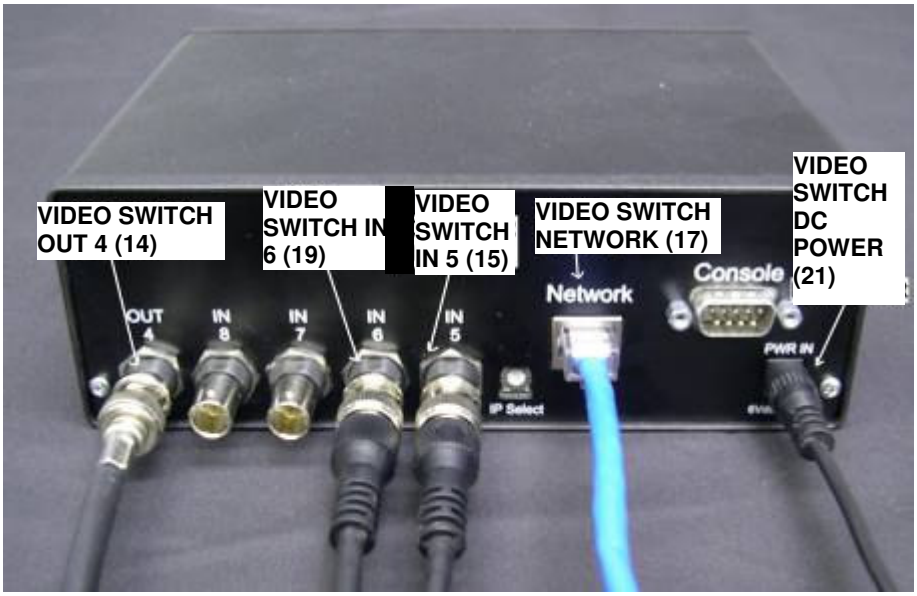


Figure 7: Wired video switch back

Make the following connections to the Video Switch:

14. **Video Switch Out 4—**Connect the BNC video output (cable label 14 Video Switch Out 4) to the PC Video In input on the computer (label 14 in Figure 1 Computer back6.1 Computer Back diagram, page 9).
15. **Video Switch In 5**—Connect the BNC video input to the PC Video Out input on the back of the computer (label 15 in Figure 1 Computer back diagram, page 9).
17. **Video Switch Network**—Connect the RJ45 LAN connection (cable label 17 Video Switch Network) to the Network Switch.
19. **Video Switch In 6**—Connect the BNC video output (cable label 19 Video Switch In 6) to the Ball Camera.

21 **Video Switch DC Power**—Plug the DC barrel plug (cable label 21 Video Switch DC Power) into the back of the Video Switch. The voltage and rating of the power input is labeled on the back of the switch. Ensure the correct mating AC to DC power adapter is used to match voltage and current.

IP Select—This input is used to set the IP address offset and it is set at the factory.

Console—Not used.

6.7 Video Switch Front

Figure 8 shows the video switch front.

Figure 8: Video switch front

The following connections, indicators, and switches can be found on the front of the Video Switch:

IN 1–4 —These inputs are for external video. They are typically not used in a standalone desk configuration.

OUT 1–3 —These outputs are used for connection to hall monitors.

PWR ON —This LED indicates that the Video Switch has power. This light will not come on until you start PowerPlay.

SETUP REQ'D —This LED indicates that the Video Switch has not been setup yet and is using the default settings.

CONNECT —This LED indicates that the Video Switch has a TCP/IP connection.

RESET —This push button switch is used to reset the Video Switch.

6.8 Wired Network Switch Back

Figure 9 shows the wired network switch back.

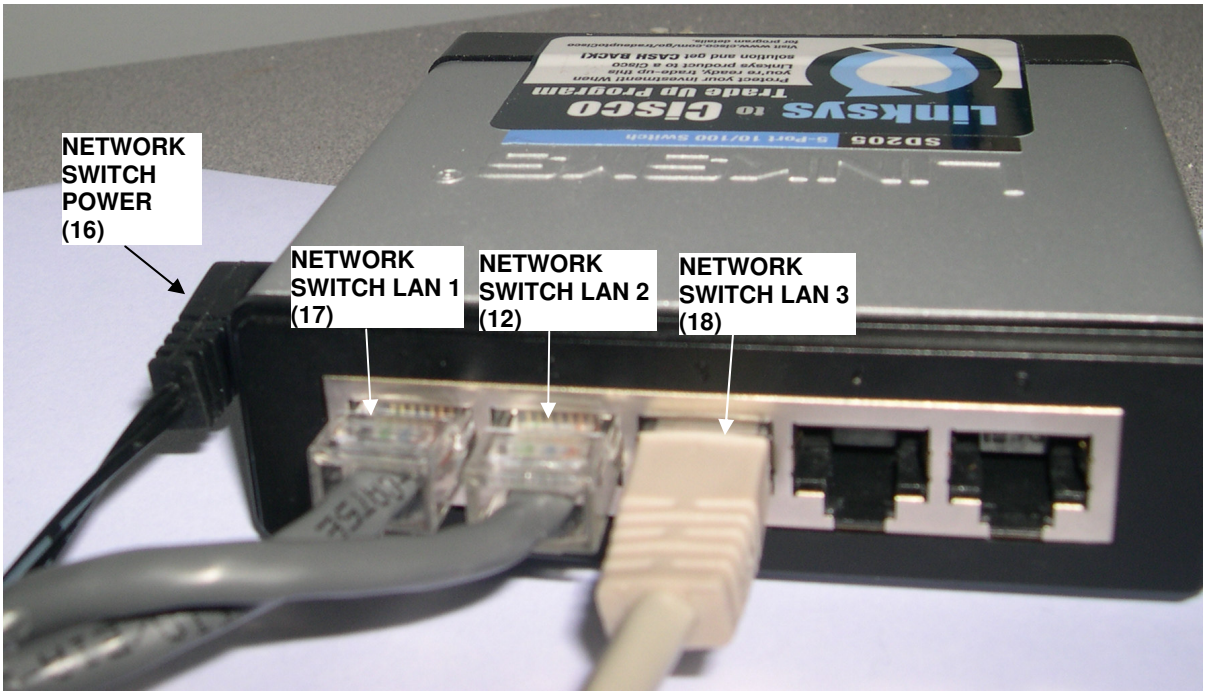


Figure 9: Wired network switch

The switch shown in the photo is a typical switch used and the actual switch used may vary.

Make the following connections to the Network Switch:

16. **Network Switch Power—**Plug the DC barrel plug (cable label 16 Network Switch Power) into the back of the Network Switch. The voltage and rating of the power input is labeled on the back of the switch. Ensure the correct mating AC to DC power adapter is used to match voltage and current.
17. **Network Switch LAN 1—**Insert the RJ45 LAN cable (cable label 17 Network Switch LAN 1) from the Video Switch into port 1 of the Network Switch.
12. **Network Switch LAN 2—**Insert the RJ45 LAN cable (cable label Network Switch LAN 2) from the I/O Box into port 2 of the Network Switch. Network Switch LAN 2 is a pass through LAN connection to the external Local Area Network.
18. **Network Switch LAN 3**—Insert the RJ45 LAN cable (cable label 18 Network Switch LAN 3) from the PC into port 3 of the Network Switch.

6.9 I/O Box Front

Figure 10 shows the I/O Box front.

Figure 10: IO Box front

The IO Box Front panel makes user connections easily accessible. The following connections, status, and controls are available of the front of the I/O Box:

Line In L/R — Stereo Left and Right Audio inputs are provided. This input is mixed with internal audio and fed to Audio Out.

Audio Out L/R —Stereo Left and Right Audio out is provided for external amplification. All internal sounds are mixed and the result is provided on this output.

Mic In — A microphone input is provided and is mixed with internal audio and fed to Audio Out.

Video Out — Not Used. Video outputs feeds are take directly from the Video Switch.

Parallel Printer — A pass through printer connection from the computer is provided for easy connection to an external printer.

Modem — This interface is connected to a telephone line and connected to the internal modem card in the computer.

Network — This interface is for connection to the Local Area Network. It is connected to one of the internal Network Switch ports.

Autocom — Not used.

Bonanza — These RJ11 connectors are for interfacing to the Bonanza flash boards.

Payout — These RJ11 connectors are for interfacing to the Payout flash boards.

"B" Data —These RJ11 connectors are for interfacing to the "B" Data flash boards.

Motor — This switch allows you to manually turn on the Blower Motor.

+5V — This LED indicates that the IO box internally circuitry has 5V power.

Reset — This switch allows you to manually reset the IO Box.

Master On/Off Switch — This switch allows you to turn power on or off to all components within the Desk. The computer must be properly shutdown before power is turned off. When power is turned on, the computer will have to be turned on at the front of the computer.

120 VAC — This connector supplies power for all internal Desk components.

6.10 I/O Box External Cables

Figure 11 shows the external cables from the I/O Box.

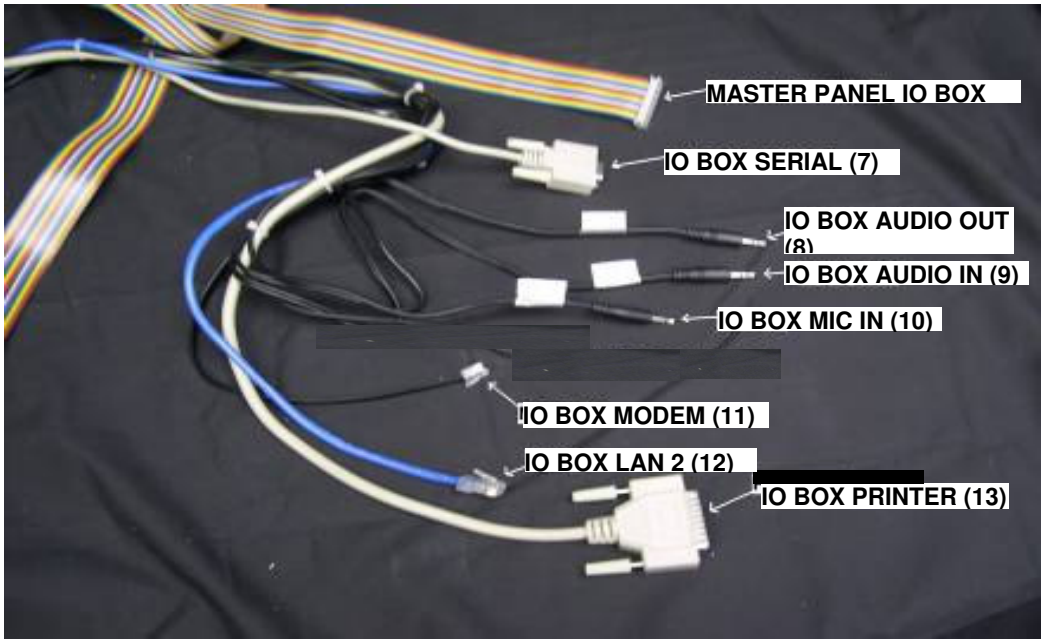


Figure 11: I/O Box external cables

Connect the following cables from the I/O Box to the Computer/Master Panel:

6. **Master Panel IO Box** —Plug the 26 pin DIN connector from the back of the IO Box (cable label 6 Master Panel IO Box) into the Master Panel.
7. **IO Box Serial**—Plug the DB9 serial cable from the I/O Box (cable label 7 IO Box Serial) into the I/O box serial port (label 7 in Figure 1 Computer back6.1 Computer Back diagram, page 9) on the back of the computer (label 7 on Figure 1 Computer back, page 9).

8. **IO Box Audio Out —**Plug the 1/8" stereo plug (cable label 8 IO Box Audio Out) from the I/O Box into the Audio Out jack (label 5 in Figure 1 Computer back diagram, page 9) on the back of the computer. Cable label 8 is not depicted in Figure 1 Computer back diagram, page 9 because cable label 5 is plugged in. **Plug the cable from the PA system into the I/O box if you want the audio to go to the hall PA speakers.**

Note: If you want the audio to go to the monitor speakers, plug the 1/8 inch stereo plug from the monitor (cable label 5 Monitor Audio In) into the back of the computer (label 5 in Figure 1 Computer back, page 9).

.9. **IO Box Audio In**—Plug the 1/8” stereo plug cable from the I/O Box (cable label 9 IO Box Audio In) into the Audio In jack on the back of the computer (label 9 in Figure 1 Computer back diagram, page 9).

10. **IO Box Mic In—**Plug the 1/8” stereo plug cable from the I/O Box (cable label 10 IO Box Mic In) into the Mic In jack on the back of the computer (label 10 in Figure 1 Computer back diagram, page 9).

11. **IO Box Modem—**Plug the RJ11 connector from the back of the I/O Box (cable label 11 IO Box Modem) into the modem port on the back of the computer (label 11 in Figure 1 Computer back diagram, page 9).

12 **IO Box LAN 2—**Plug in the RJ45 connector from the Network Switch (cable label 12 IO Box LAN 2) into the LAN port on the back of the computer (label 18 in Figure 1 Computer back6.1 Computer Back diagram, page 9).

13. **IO Box Printer—**Plug the DB25-P connector (cable label 13 IO Box Printer) into the printer port on the back of the computer (label 9 in Figure 1 Computer back6.1 Computer Back diagram, page 9).

6.11 Wired IO Box Back

Figure 12 shows the wired I/O Box back.

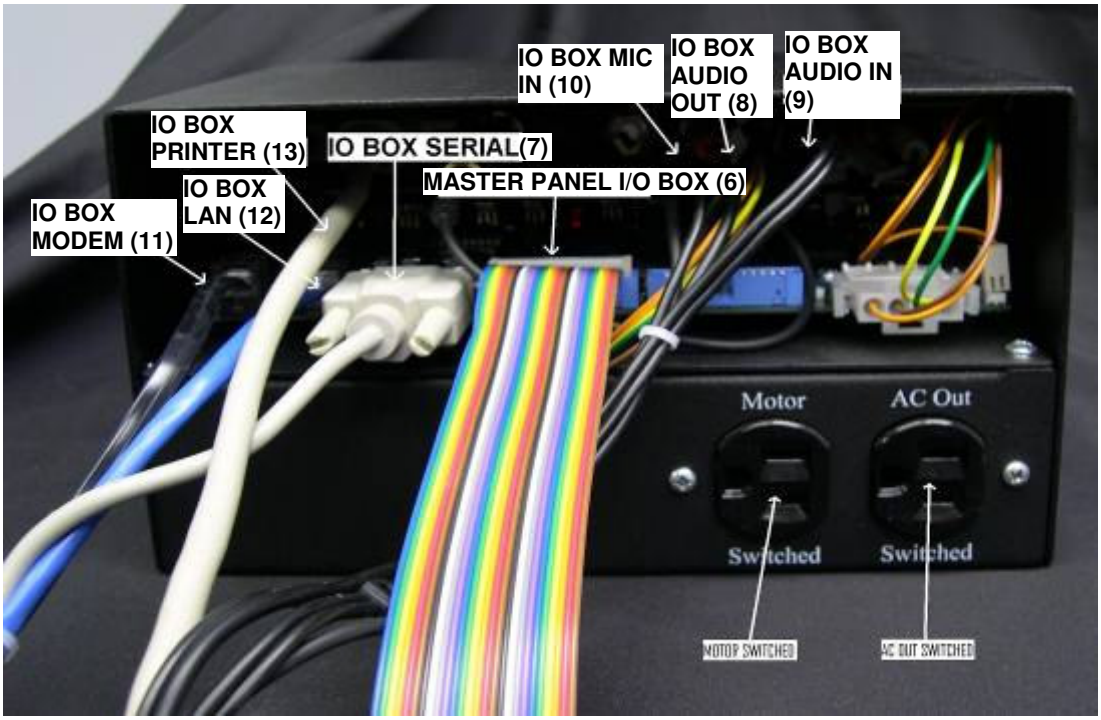


Figure 12: Wired IO Box back

Make the following connections at the back of the IO Box:

6. **Master Panel IO Box**—Connect the 26 pin DIN connector (cable label 6 Master Panel IO Box) from the Master Panel to the back of the I/O Box.
7. **IO Box Serial**—Connect the DB9P cable (cable label 7 IO Box Serial) from the computer to the back of the I/O Box.
8. **IO Box Audio Out**—Connect the RCA plug (cable label 8 IO Box Audio Out) to the back of the I/O Box from the computer. This is a pass through connection. Cable label 8 is not depicted in Figure 1 Computer back diagram, page 9 because cable label 5 is plugged in. **Plug the cable from the PA system if you want the audio to go to the hall PA speakers.**

   Note: If you want the audio to go to the monitor speakers instead of the hall PA system, plug the 1/8 inch stereo plug from the monitor (cable label 5 Monitor Audio In) into the back of the computer (label 5 in Figure 1 Computer back, page 9).

9. **IO Box Audio In**—Connect the RCA plug (cable label 9 IO Box Audio In) to the back of the I/O Box from the computer. This is a pass through connection.
10. **IO Box Mic In**—Connect the ¼ inch phono plug (cable label 10 IO Box Mic In) to the back of the I/O Box from the computer.

11. **IO Box Modem—**Connect the RJ11 plug (cable label 11 IO Box Modem) to the back of the I/O Box from the computer. This is a pass through connection.

12. **IO Box LAN**—Connect the RJ45 plug (cable label 12 IO Box LAN) to the back of the I/O Box from the Network Switch. This is a pass through connection.

13. **IO Box Printer** —Connect the DB25 parallel cable (cable label 13 IO Box Printer) from the computer to the back of the I/O Box. This is a pass through connection.

Motor Switched—Connect the blower motor to this connector. This output is controlled by the I/O Box firmware and the /IO Box "Motor" front panel switch.

AC Out Switched—Connect the Power Block to this connector. This output is controlled by the I/O Box "master on/off switch".

6.12 Ball Camera

Figure 13 shows the Ball Camera and Ball Chute.

The following connections and controls are found on the Ball Camera:

A. **Ball Camera Video** —This output connects to the video switch (not shown on diagram)
B. **DC In** —This input connects to the power adapter for the Ball Camera.
C. **Focus** —The control closest to the lens is the focus.
D. **Zoom** —The control next to the Focus is the zoom. Zoom into the ball and then focus it.
E. **White Level** —Set this to A/C for automatic control.

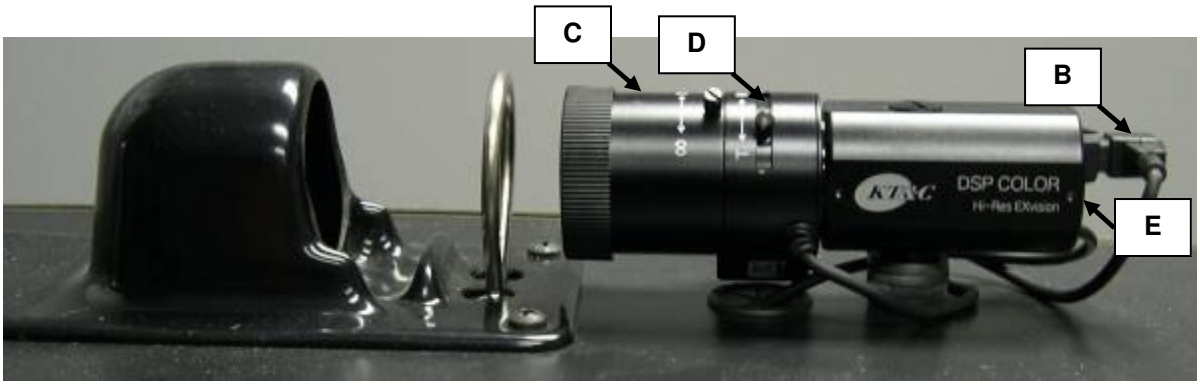


Figure 13: Ball Camera and Ball Chute

7. Operating the Bel Air

Use the following steps to operate the desk:

1. Turn on the main power switch on the I/O Box.

   The electronics will power up.

2. Turn on the PC.

   The PowerPlay™ desk software will automatically start.

3. Follow the *PowerPlay™ User's manual* to properly configure the desk software.

4. If balls are already on the ball tray, press Ball Tray Release button.

   The balls will drop into the ball tray.

5. Pull the Ball Chamber release lever

   The balls will drop into the ball chamber.

6. Turn on the blower motor when the session starts.

   If you are using the desk in manual mode, you can use the Motor switch on the I/O Box to turn on the blower motor.

7. Once the bingo session begins, remove the balls from the Ball Chute and place the balls in the Ball Tray until a bingo is called.

8. Refer to the *PowerPlay™ User's manual* for details on running a session.

9. When the desk is no longer required for play, shutdown the PC and turn off the I/O Box.

8. Servicing and cleaning

The following serviceable items require regular maintenance:

The blower motor requires oiling every 6 months using SAE20 oil. The blower motor can be accessed through the blower motor door. Failure to regularly oil the motor may void motor warranty.

The blower motor air filter should be cleaned every 6 months using water and dish soap. The air filter can be accessed through the blower motor door.

The stainless steel front panel of the desk can be cleaned using Trans-Mate Gold Series cleaner or any other suitable stainless steel cleaner. When cleaning the stainless steel ensure you wipe with the grain.

General cleaning of surfaces may be done using mild dish soap and water.

The Fan on the inside of the PC should be cleaned using a small hand vacuum every 6 months.

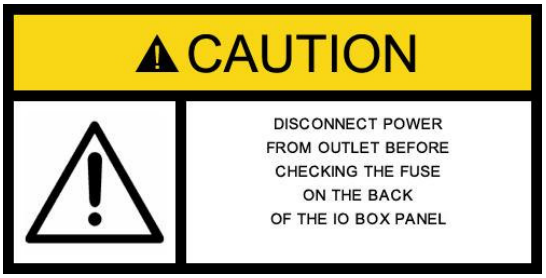
In the event that the ball chamber lamp burns out it may be access through the ball chamber. The replacement bulb part number is 1708L001.

If bingo balls become damaged, a new set of balls may be ordered using part number 6373014-43

9. Troubleshooting

The following are some typical problems and the solutions:

The following are some typical problems and the solutions;

Problem	Solution
Electronics and desk have no power.	Check fuse and AC connections. 
Ball action in chamber is irregular (e.g. balls are sticking).	Ensure that air filter is not clogged. Ensure static spring is straight and secure.
Ball image is fuzzy, too small, or too large.	Use the zoom and focus to adjust image.
The ball image is washed out.	Set the white level control to A/C. Ensure there are no strong lights directly overhead.
Ball switches stop responding.	Press reset switch on I/O board several times.
Flashboards stop responding.	Reset I/O board and check cables.
Motor runs constantly.	Ensure that the motor bypass switch is turned off.
Unspecified problem	Call help desk 1-888-246-4609

10. Warranty

Product Limited Warranty

Subject to the terms and conditions herein below, Video King as the Manufacturer warrants that the hardware products it manufactures will be free from defects in materials and workmanship for a warranty period of **one (1) calendar year** from original invoice date.

THIS EXPRESS AND LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, AND ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. MANUFACTURE'S MAXIMUM LIABILITY WILL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT, AT MANUFACTURER'S OPTION, OF ANY DEFECTIVE PRODUCT. THE WARRANTY HEREIN IS CONTINGENT ON THE PROPER USE OF THE PRODUCT IN ACCORDANCE WITH THE INSTRUCTIONS AND SPECIFICATION PROVIDED BY MANUFACTURER AND SHALL NOT APPLY TO ANY PRODUCT THAT HAS BEEN REPAIRED OR MODIFIED BY PERSONS OTHER THAN MANUFACTURER, OR IF USED IMPROPERLY OR IN AN OPERATING ENVIRONMENT NOT APPROVED BY MANUFACTURER. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RELATING TO THE USE OF THE PRODUCT, OR FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, WHATSOEVER.

This warranty DOES NOT cover any items that are in one or more of the following categories: software; devices external to the original system (such as, but not limited to: printers, monitors, etc.), except specifically noted; accessories or parts added to a system by Video King after the system is manufactured; and accessories or parts that are not installed at the Video King factory. Any items not covered by this warranty are covered solely by a warranty offered by the manufacturer(s) of the item(s). Computer keyboards and mouse units are included as part of the system and are covered under this warranty.

This warranty DOES NOT cover damage due to external causes, including but not limited to; accident, abuse, misuse, problems with electrical power, servicing not authorized by Video King, usage not in accordance with product instructions, failure to perform required preventative maintenance or problems caused by use of parts or components not supplied by Video King, (refer to product User's Manual for Preventative Maintenance Schedule).

To request warranty service, you must within the warranty period, contact Video King at 1-888-246-4609 or contact your local Video King Distributor for assistance. Product(s) should be returned to Video King at the customer's expense upon receipt of a Return Material Authorization Number (RMA). The customer must ship the products back to Video King in their original or equivalent packaging. Customers are responsible for the cost of shipping to Video King and must insure the package(s) for loss and/or damage during shipping. Video King shall not be responsible for any loss and/or damage during shipping by the customer.

If it is found that non-Video King accessories were added to the system and are found to be the cause of the reported problem, or if the problem is not related to hardware covered under this warranty, a service charge WILL be applied.

During the period of this warranty, Video King (*at its option*), will repair or replace products covered. Video King reserves the right to send a whole replacement product for the system, or a replacement for portions of the system, rather than repairing and returning the complete system that was originally returned for repair. Video King uses new and reconditioned parts (made by various manufacturers), in performing warranty repairs and building replacement products. If Video King repairs or replaces a product, *the replacement product will carry a 60-Day warranty from the date of receipt by customer of the repaired or replaced product from Video King*. Depending upon availability, replacement products may not be identical, but will be equivalent to or better than the original product.

NOTE: Before Video King repairs the product(s), it is the customer's responsibility to back-up all computer data and software on the hard-disk drive(s) and any other storage devices(s) in the product(s) and to remove any removable media (such as diskettes, CD's, etc.). It is also the customer's responsibility to reload data and software after the repairs have been completed. Video King is not responsible for any loss of data or software and Video King is not required to advise or remind the customer of appropriate backup, security and procedures.

Warranty restriction and limitations

The following items carry a **90-Day warranty** only from the original invoice date:

All Bingo Balls

Blower Motor Air Filter, Part No. 16030002-A

Blower Motor, Part No. 10337110

11. Service

For Warranty Service or to obtain an RMA Number call:

1-888-246-4609

8:00am to 4:30pm CST

Monday thru Friday

Note: Shipping cut-off time is

3:00pm, Monday thru Friday

For Equipment Returns ship to:

Video King

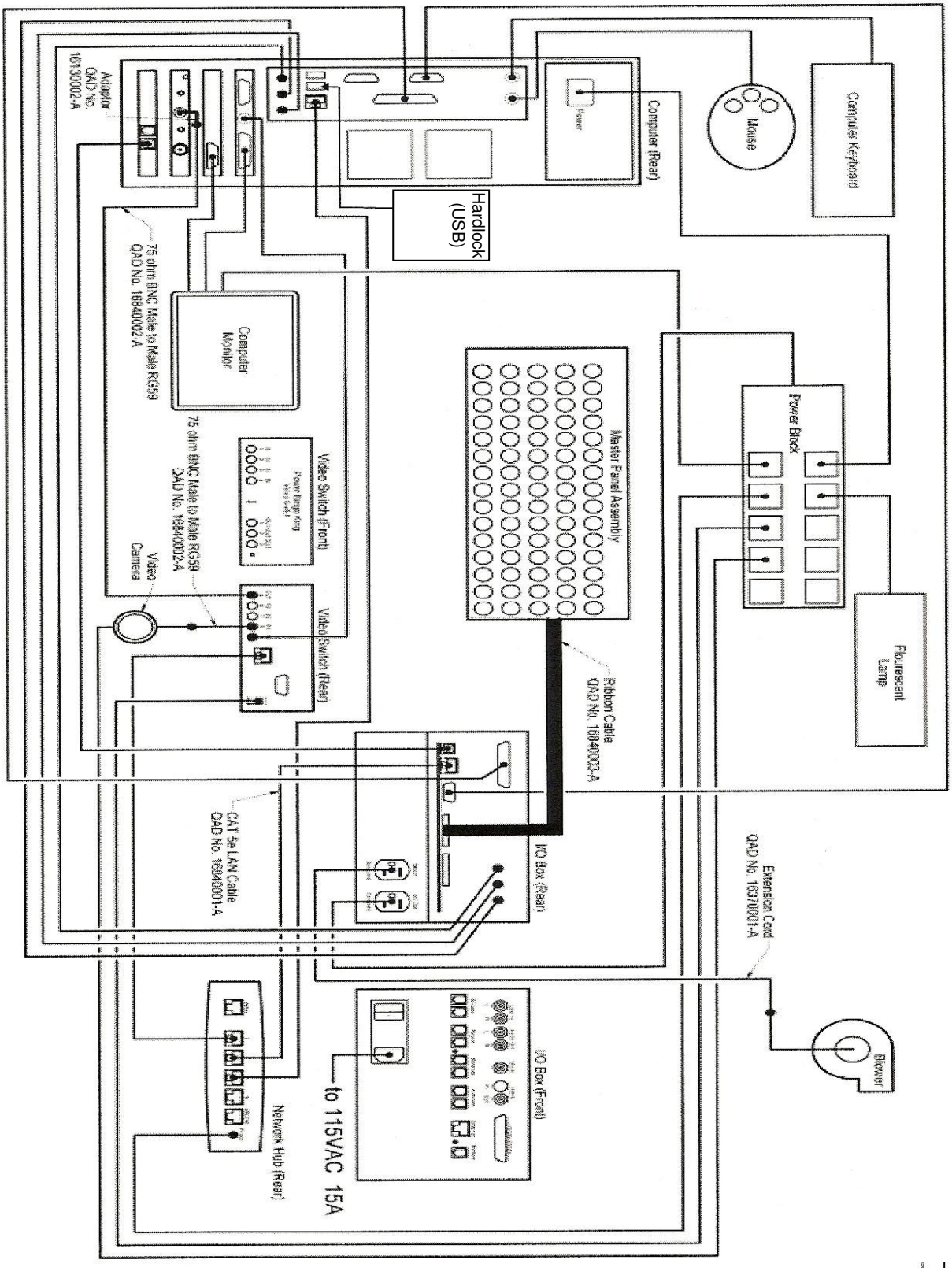
7270 Pacific St.

Omaha, NE 68114-5429

12. Cable label matrix

From				To		
Device	Connector	Label	Label Number	Device	Connector	Label
PC	DB15P	PC VGA	1	Monitor	DB15P	Monitor VGA
Monitor	DC Plug	Monitor Power	2	Monitor	DC Plug	Monitor DC 12V
Monitor Power Supply	DC Jack	Monitor Power	3			
PC	DB9S	PC Touch Screen	4	Monitor	DB9P	Monitor TOUCH IF
Monitor	1/8” Stereo Plug	Monitor Audio In	5	PC	1/8” Stereo Plug	PC Audio Out
Master Panel	26 Pin DIN	Master Panel	6	IO Box	26 Pin DIN	Master Panel IO Box
PC	DB9S	PC IO Box Serial	7	IO Box	DB9P	IO Box Serial
PC	1/8” Stereo Plug	PC Audio Out PA	8	IO Box	RCA Plug	IO Box Audio Out
PC	1/8” Stereo Plug	PC Audio In	9	IO Box	RCA Plug	IO Box Audio In
PC	1/8” Plug	PC Mic In	10	IO Box	¼” Phono Plug	IO Box Mic In
PC	RJ11	PC Modem	11	IO Box	RJ11	IO Box Modem
Network Switch	RJ45	Network Switch LAN 2	12	IO Box	RJ45	IO Box LAN
PC	DB25P	PC Printer	13	IO Box	DB25S	IO Box Printer
PC	BNC to RCA	PC Video In	14	Video Switch	BNC	Video Switch OUT 4
PC	S-Video	PC Video Out	15	Video Switch	BNC	Video Switch IN 5
Network Switch Power Supply	DC Plug	Network Switch DC Power	16			
Network Switch	RJ45	Network Switch LAN 1	17	Video Switch	RJ45	Video Switch Network
PC	RJ45	PC LAN	18	Network Switch	RJ45	Network Switch LAN 3
Ball Camera	BNC	Ball Camera	19	Video Switch	BNC	Video Switch IN 6
Ball Camera Power Supply	DC Plug	Ball Camera DC Power	20			
Video Switch	DC Plug	Video Switch DC Power	21			

13. Wiring diagram

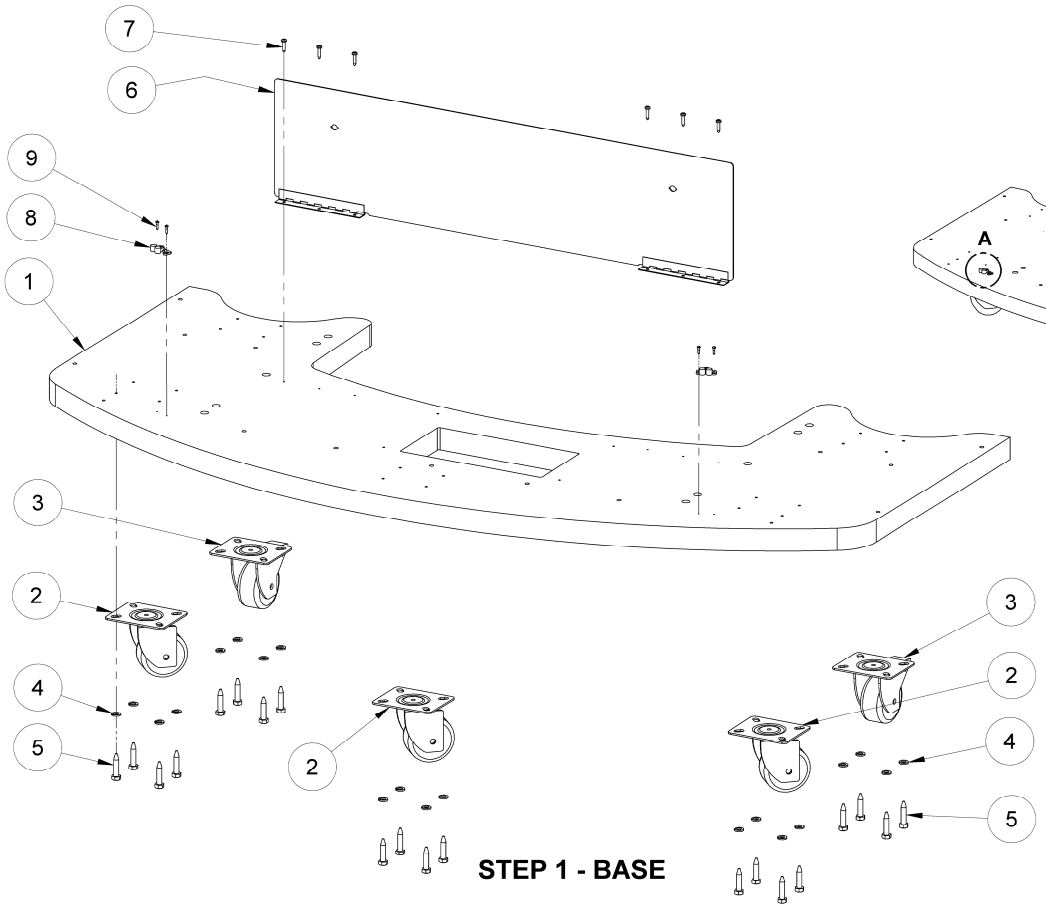


14. Technical Specifications

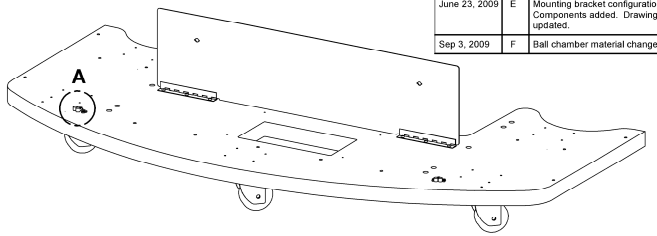
- Length: 58.25 inches.
- Width: 29 inches
- Height: 31 inches
- Shipping Weight: 330 pounds
- Two “B” Data outputs
- Two Payout Data outputs
- Two Bonanza Bingo “R” Data outputs
- Supports Video King “B” Data Flashboards, including our 4000, 6000, 7000, 7500, 7600 and Multimedia Flashboard Series
- One parallel port for connection to any standard printer
- One RJ11 modem jack for remote service dial-up connection
- One RJ45 Ethernet port for connection to local area network
- Two RCA line level audio inputs for audio mixing/multimedia capabilities
- Two RCA line level outputs for connection to hall audio system or monitor speakers
- One 1/4 inch microphone input jack for caller audio equipment
- Dedicated video graphics card for crystal clear caller and hall video displays
- One NTSC video output for connection to hall video equipment displaying live ball image and switching to card verification image
- Fluorescent light ball chamber for maximum clarity and ball action view

Appendix: Exploded assembly

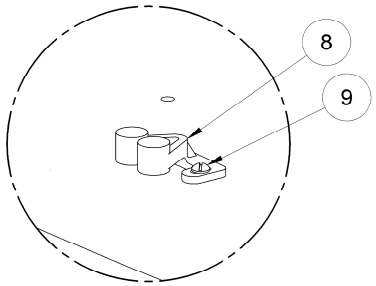
DATE	No.	REVISION	APP'D
May 4, 2007	A	Drawing officially released.	JJL
Dec. 10, 2007	B	Knob replaces Vinyl Cap. Item No. 103 in BOM added. Balloon numbers have changed accordingly. Notes on Sheet 18 changed.	JJL
Mar. 19, 2008	C	QAD No. of Pryramid Display changed from 1736M015F to 1736M600.	JJL
Dec. 18, 2008	D	Brackets, Item No.s 36 and 37 changed. BOM updated.	JJL
June 23, 2009	E	Mounting bracket configuration changed. Components added. Drawing and BOM updated.	JJL
Sep 3, 2009	F	Ball chamber material changed.	JJL



STEP 1 - BASE



STEP 1 - BASE, ASSEMBLED

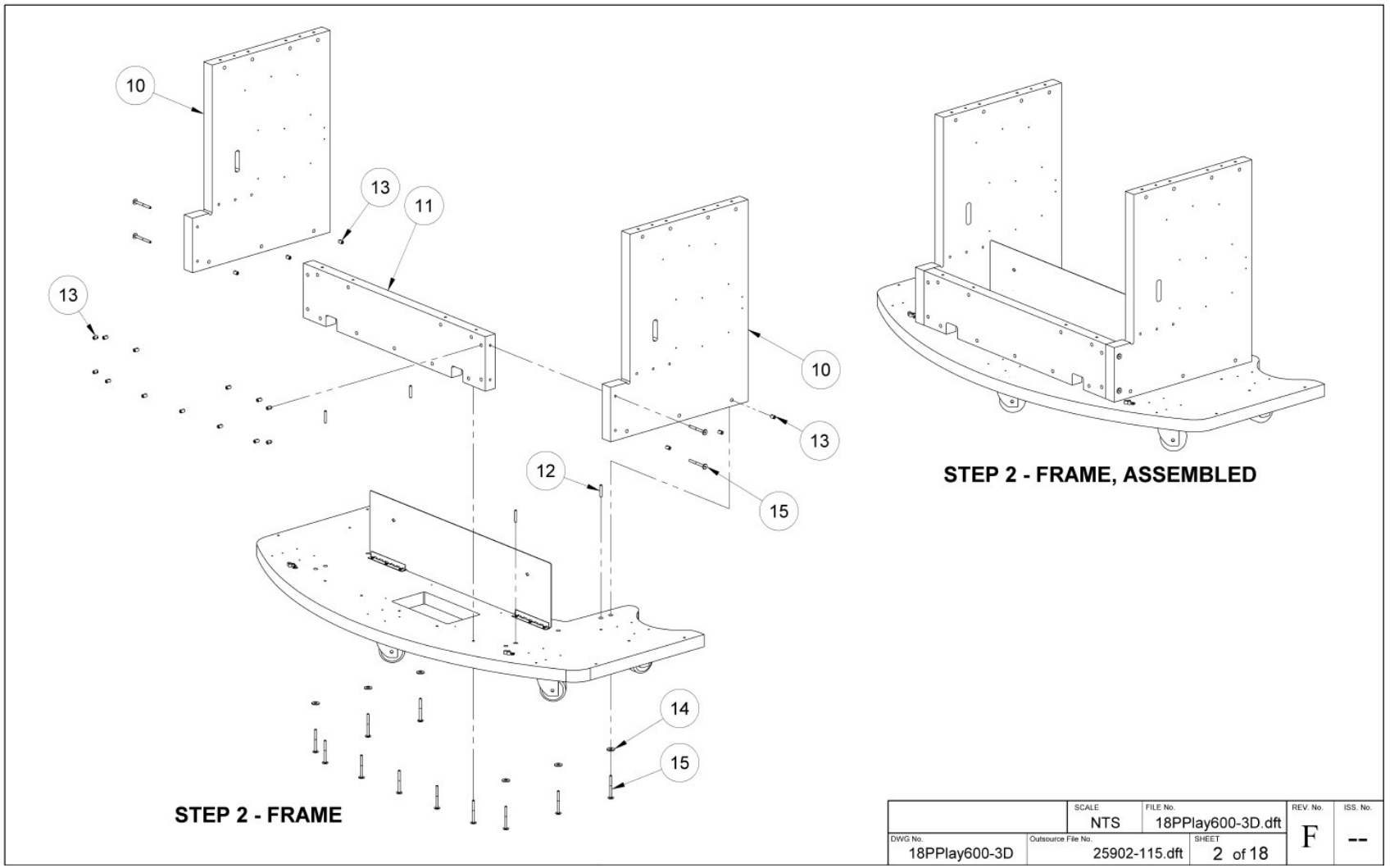


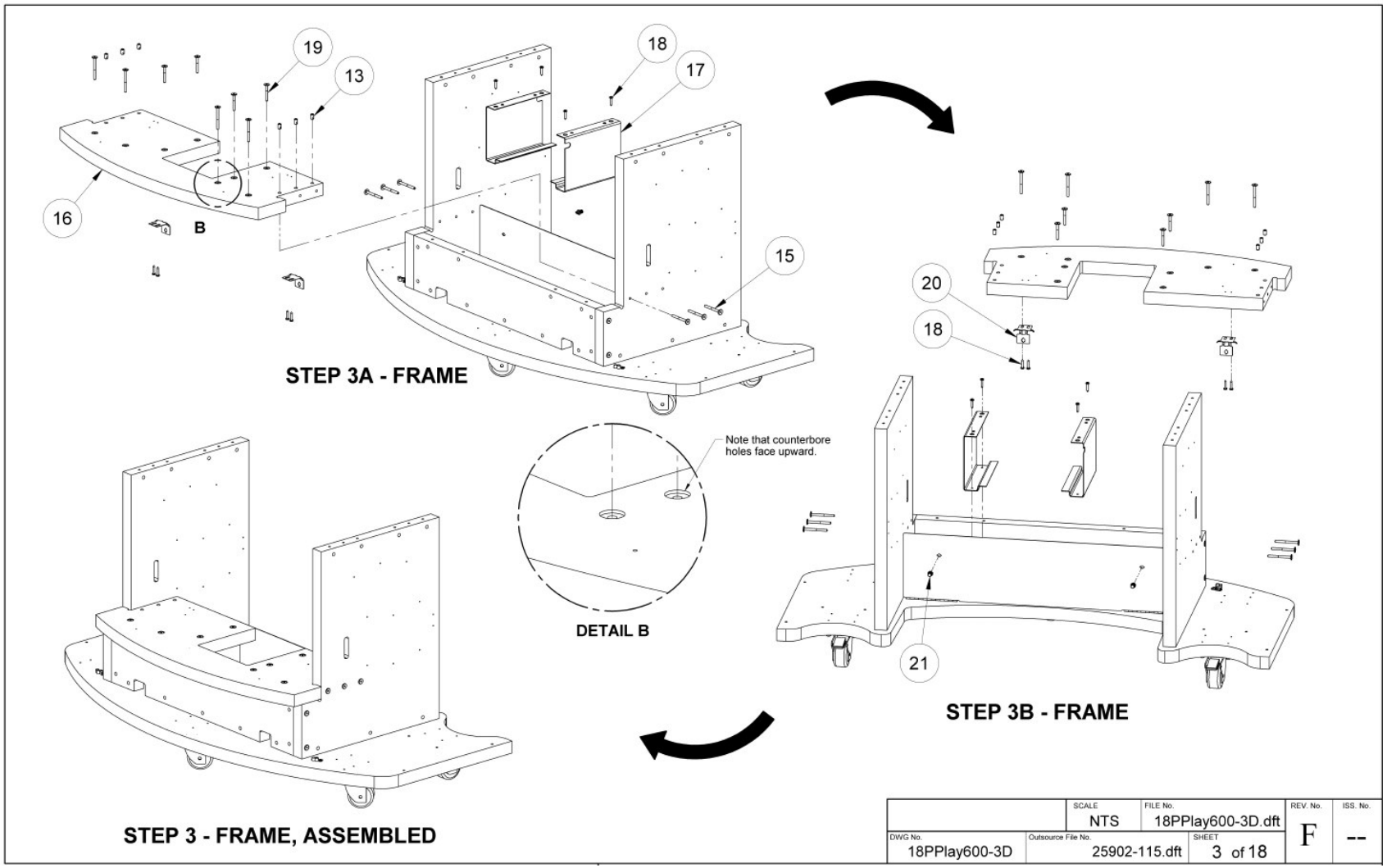
DETAIL A

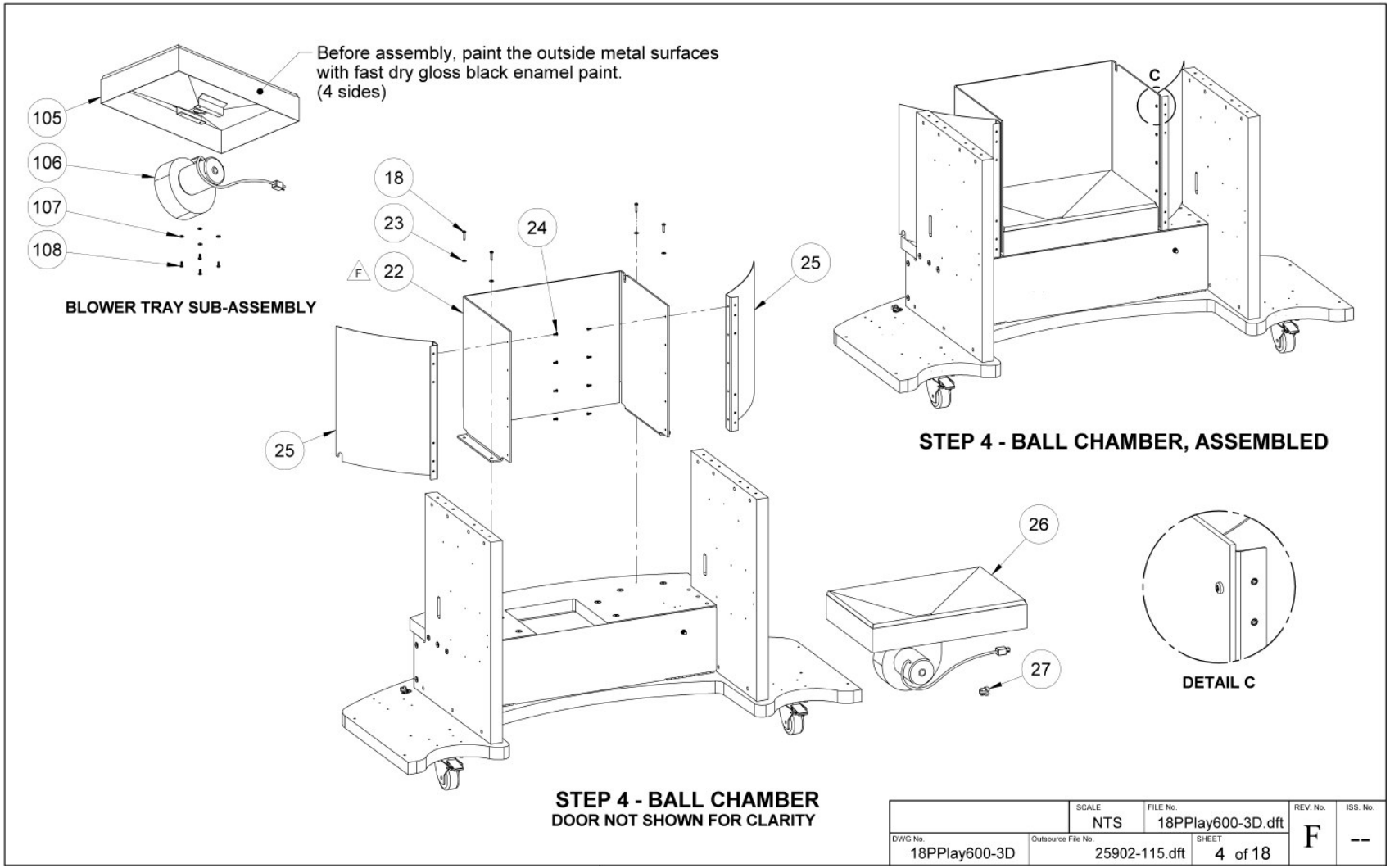
UNLESS OTHERWISE SPECIFIED TOLERANCES FOR NONLIMITED DIMENSIONS	.X ± .1 .XX ± .015 .XXX ± .010 ANGULAR ± 1°
SURFACE FINISH 125 RMS	

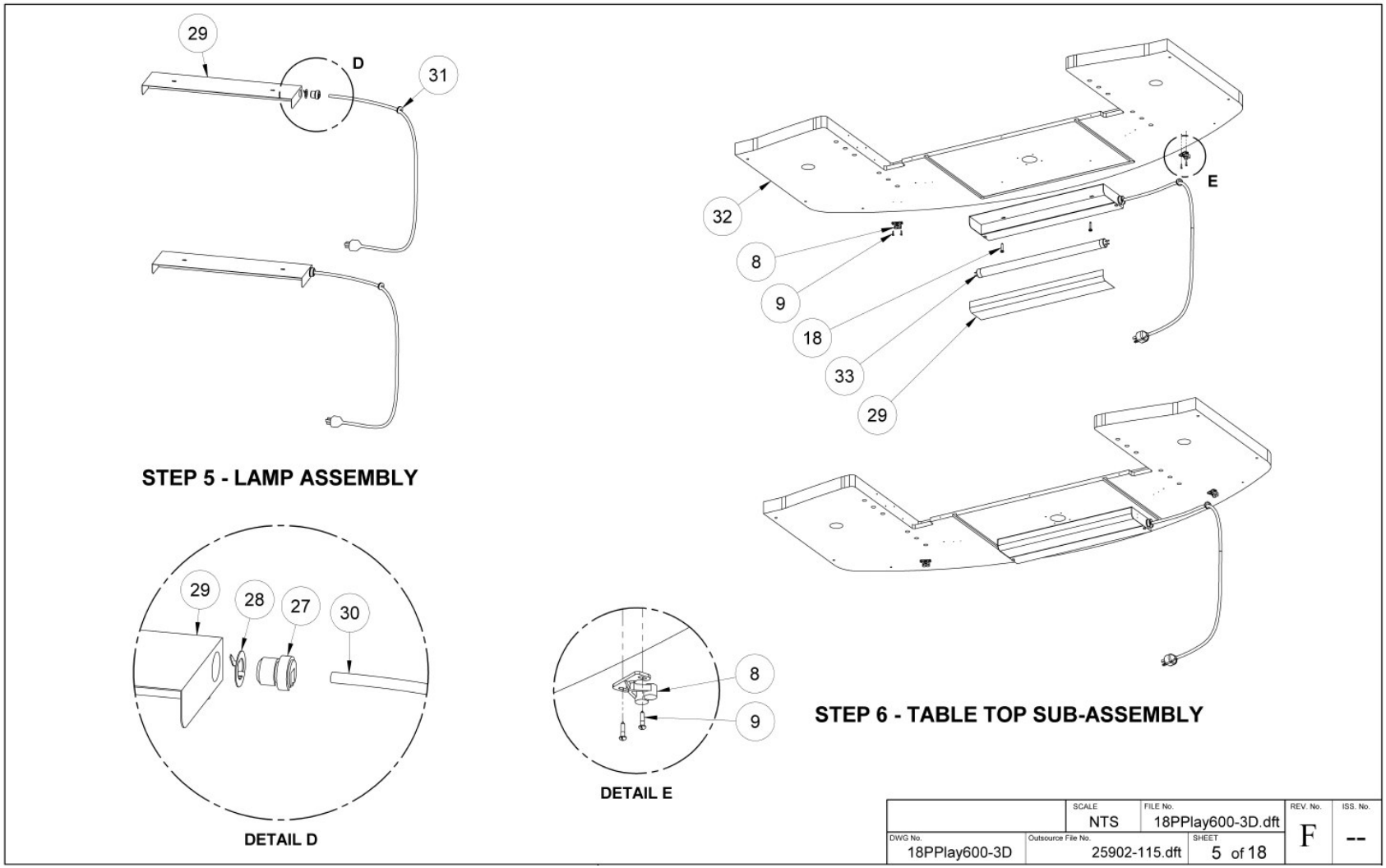
VIDEO KING
GAMING & ENTERTAINMENT

DESIGN JJL	DATE 7/04/05	TITLE:	ASSEMBLY INSTRUCTIONS SERIES 600 GAMING DESK
DRAWN JJL	DATE 1/17/07		
CHECKED JJL	DATE 1/17/07	SCALE NTS	FILE No. 18PPlay600-3D.dft
APP'D	DATE	REV. No. F	ISS. No. --
DWG No. 18PPlay600-3D	Outsource File No. 25902-115.dft	SHEET 1 of 18	


10
13
11
13
10
13
12
15
14
15
STEP 2 - FRAME
STEP 2 - FRAME, ASSEMBLED
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
--
DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
2 of 18


19
13
16
B
18
17
15
STEP 3A - FRAME
20
18
21
STEP 3B - FRAME
Note that counterbore holes face upward.
DETAIL B
STEP 3 - FRAME, ASSEMBLED
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
--
DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
3 of 18


Before assembly, paint the outside metal surfaces with fast dry gloss black enamel paint. (4 sides)
105
106
107
108
BLOWER TRAY SUB-ASSEMBLY
18
23
24
F
22
25
25
STEP 4 - BALL CHAMBER
DOOR NOT SHOWN FOR CLARITY
C
STEP 4 - BALL CHAMBER, ASSEMBLED
26
27
DETAIL C
SCALE NTS
FILE No. 18PPlay600-3D.dft
REV. No. F
ISS. No. --
DWG No. 18PPlay600-3D
Outsource File No. 25902-115.dft
SHEET 4 of 18


29
D
31
STEP 5 - LAMP ASSEMBLY
32
E
8
9
18
33
29
STEP 6 - TABLE TOP SUB-ASSEMBLY
29
28
27
30
DETAIL D
8
9
DETAIL E
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
--
DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
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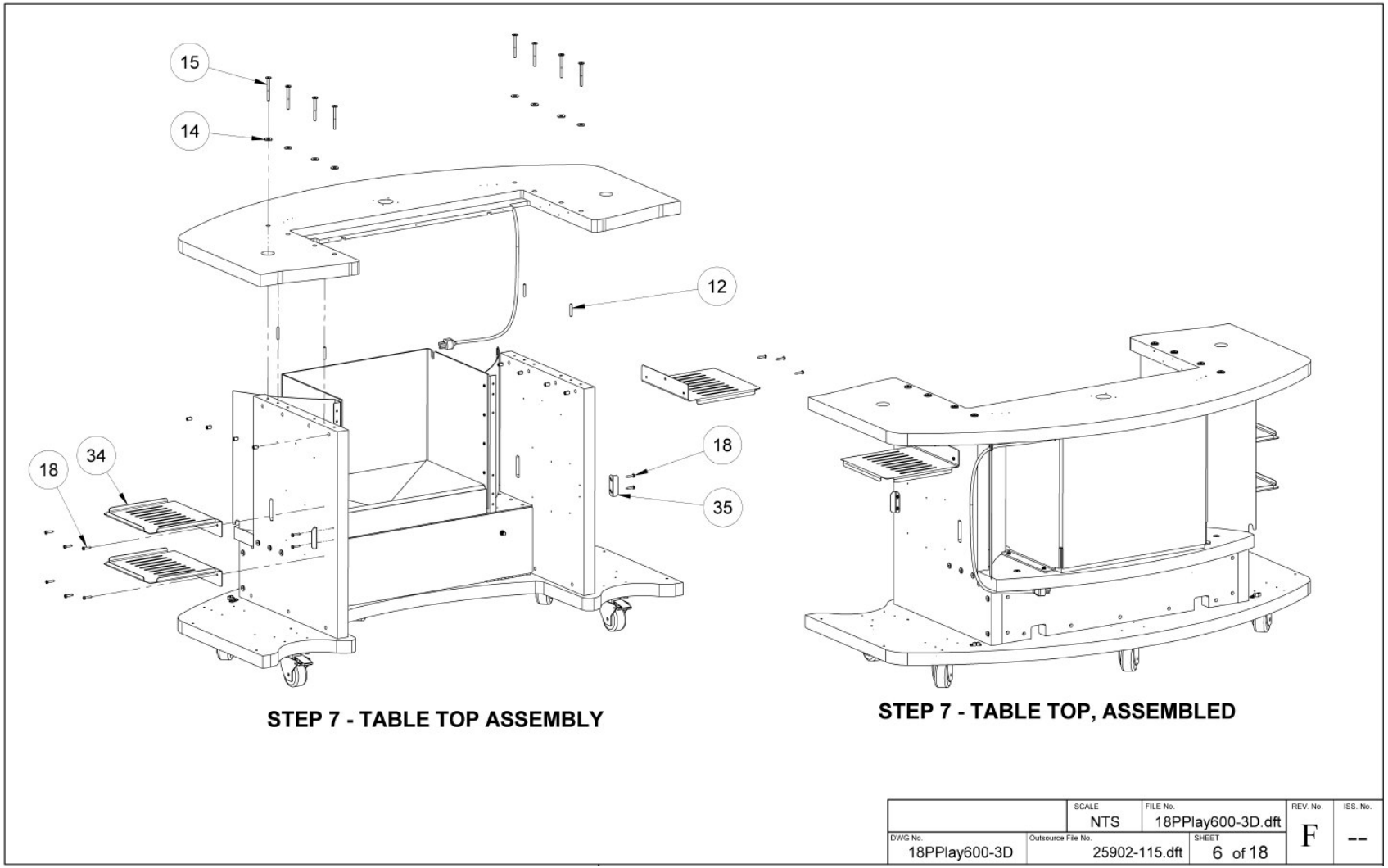
15
14
12
18
34
18
35
STEP 7 - TABLE TOP ASSEMBLY
STEP 7 - TABLE TOP, ASSEMBLED
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
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DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
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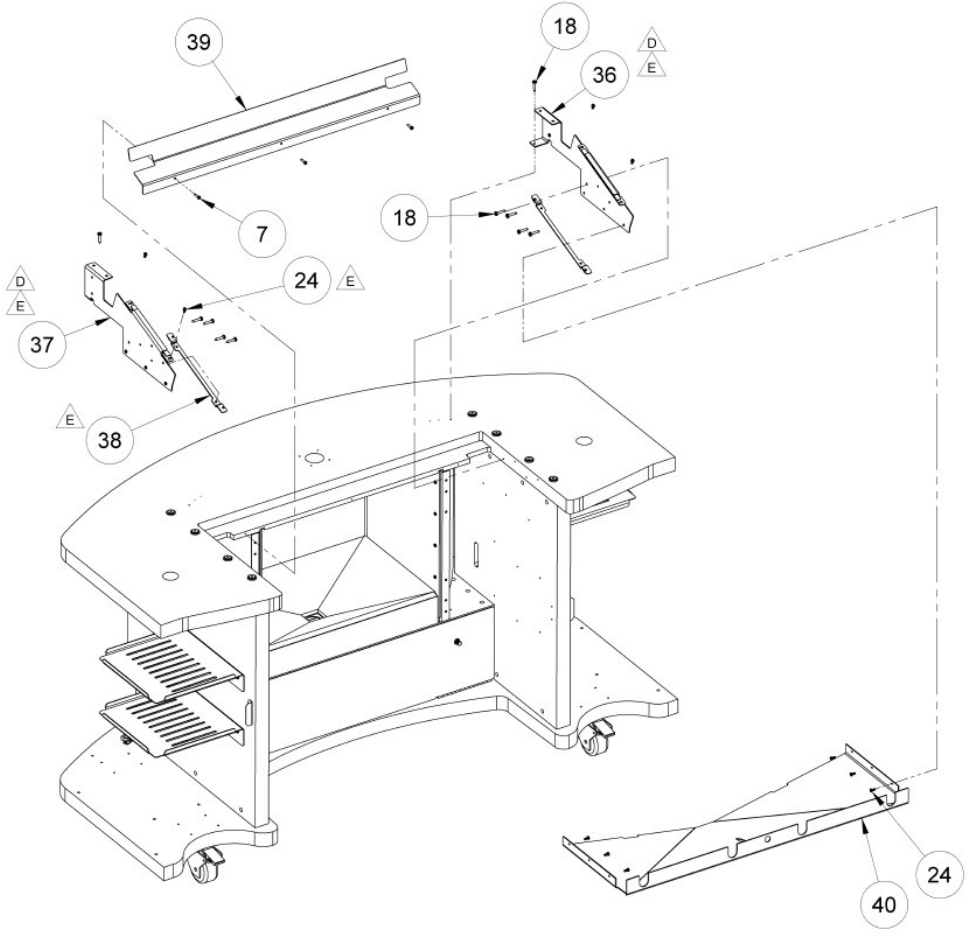
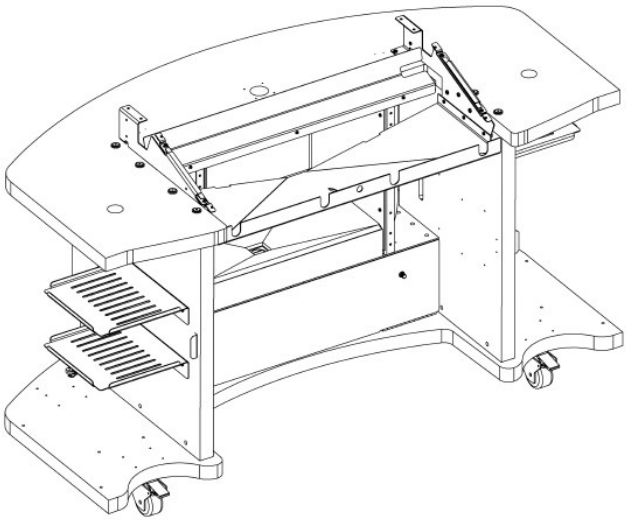


STEP 8 - UPPER BRACKETS



STEP 8 - UPPER BRACKETS, ASSEMBLED

	SCALE	FILE No.	REV. No.	ISS. No.
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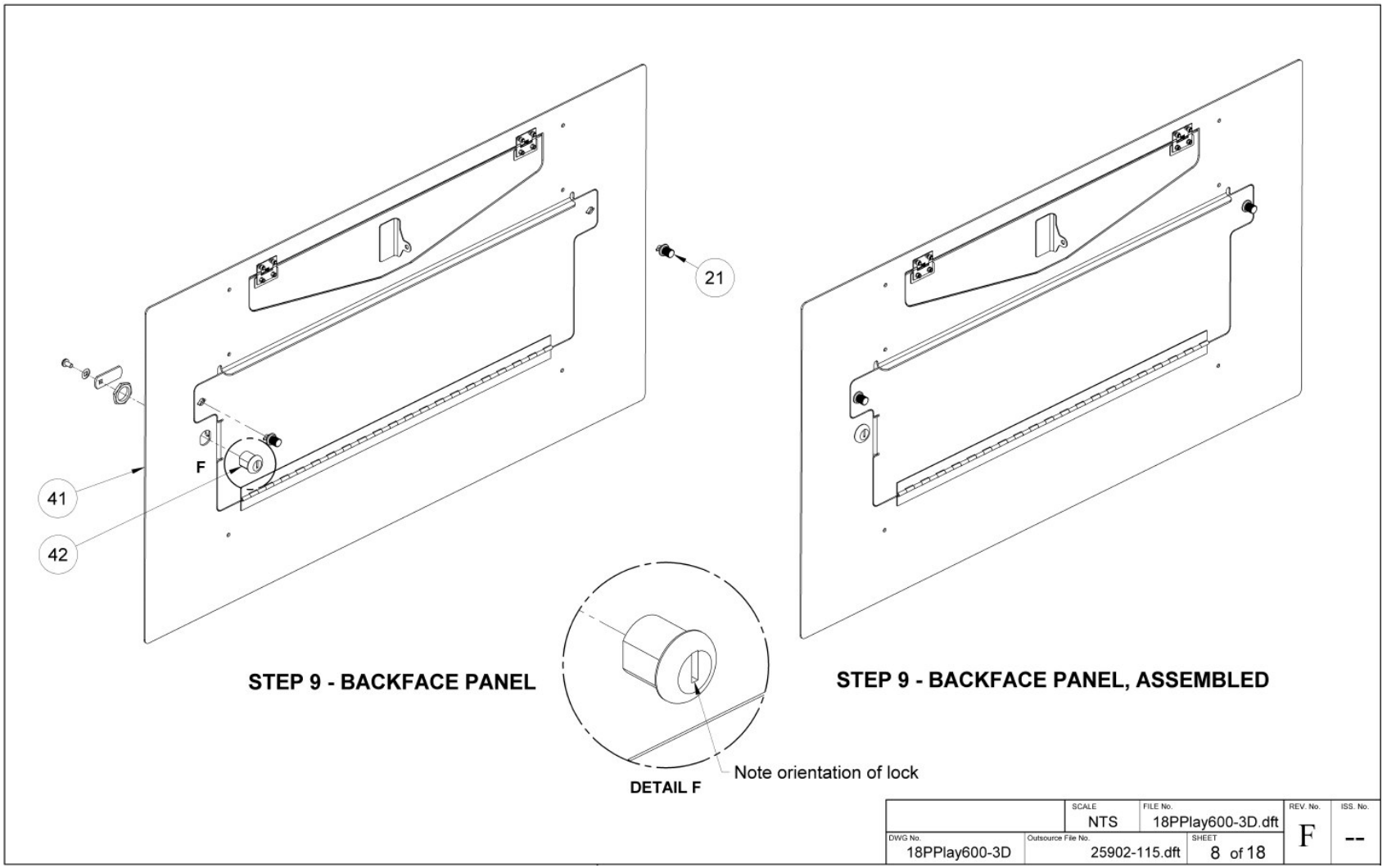
DWG No. 18PPlay600-3D	Outsource File No. 25902-115.dft	SHEET 7 of 18		


21
F
41
42
STEP 9 - BACKFACE PANEL
STEP 9 - BACKFACE PANEL, ASSEMBLED
Note orientation of lock
DETAIL F
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
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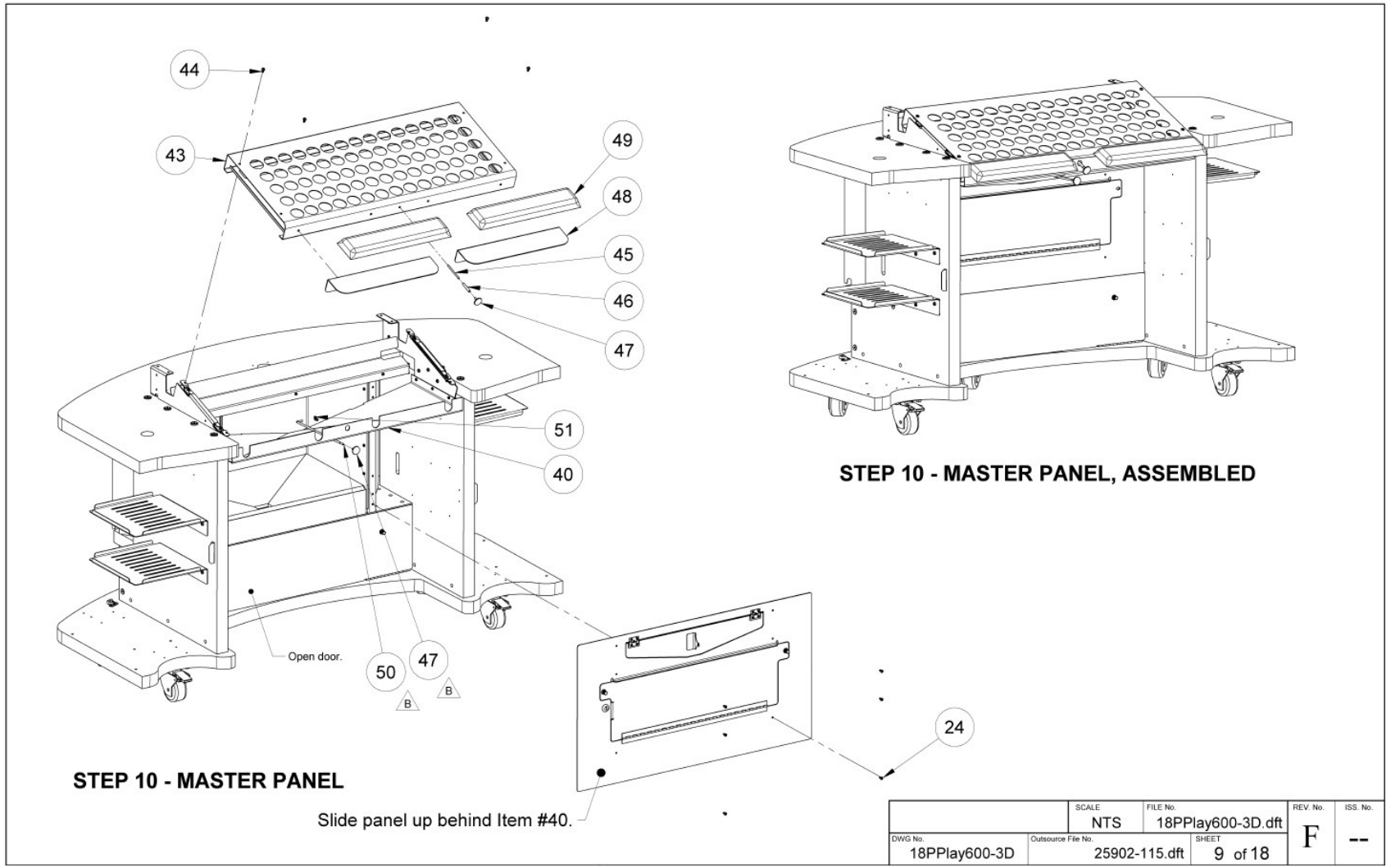
DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
8 of 18


44
43
49
48
45
46
47
51
40
Open door.
50
47
B
B
24
Slide panel up behind Item #40.
STEP 10 - MASTER PANEL
STEP 10 - MASTER PANEL, ASSEMBLED
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
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DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
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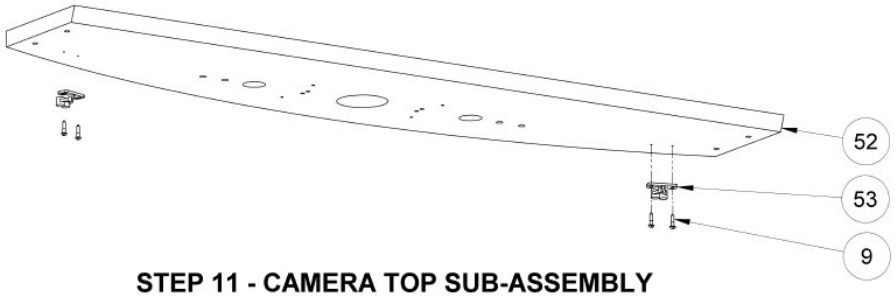
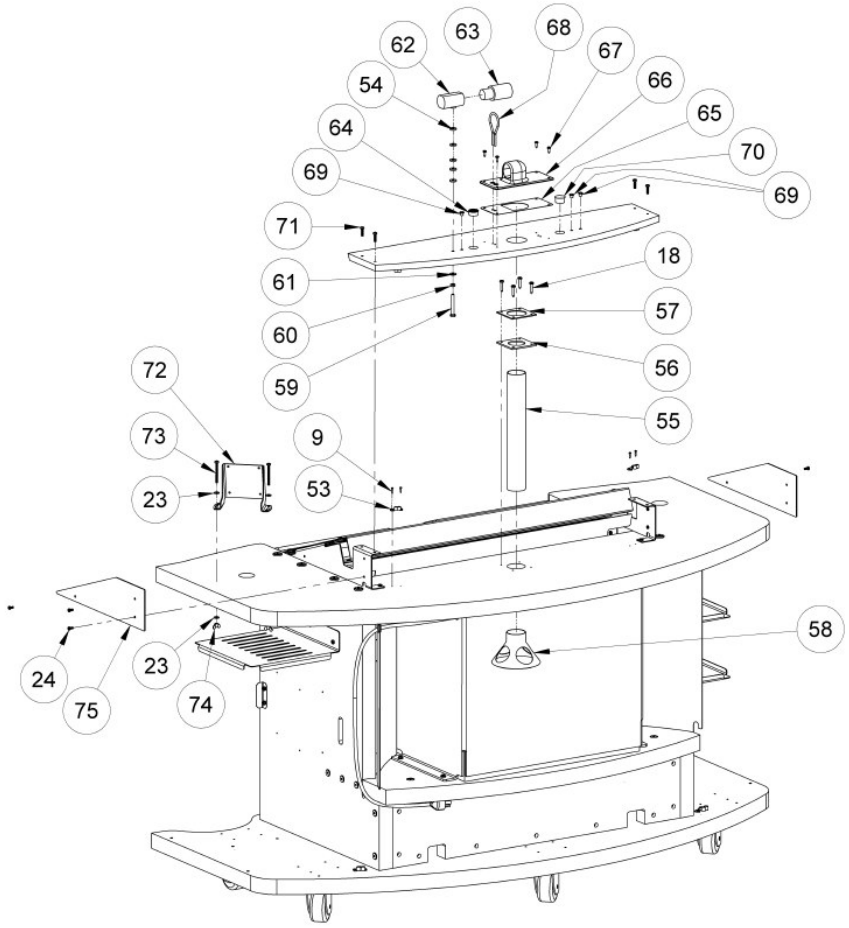
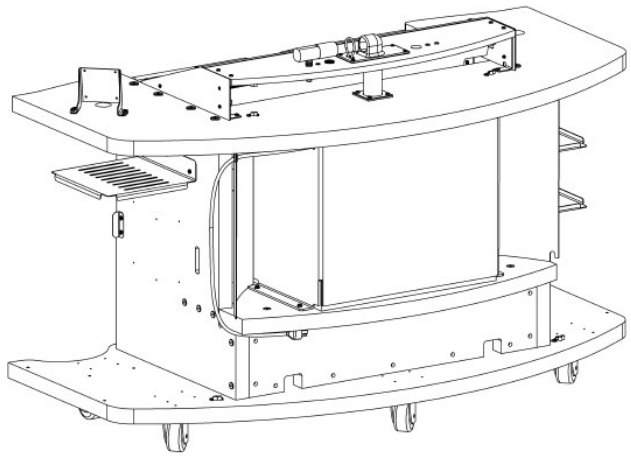


STEP 11 - CAMERA TOP SUB-ASSEMBLY

	SCALE	FILE No.	REV. No.	ISS. No.
	NTS	18PPlay600-3D.dft	F	--
DWG No. 18PPlay600-3D	Outsource File No. 25902-115.dft	SHEET 10 of 18		

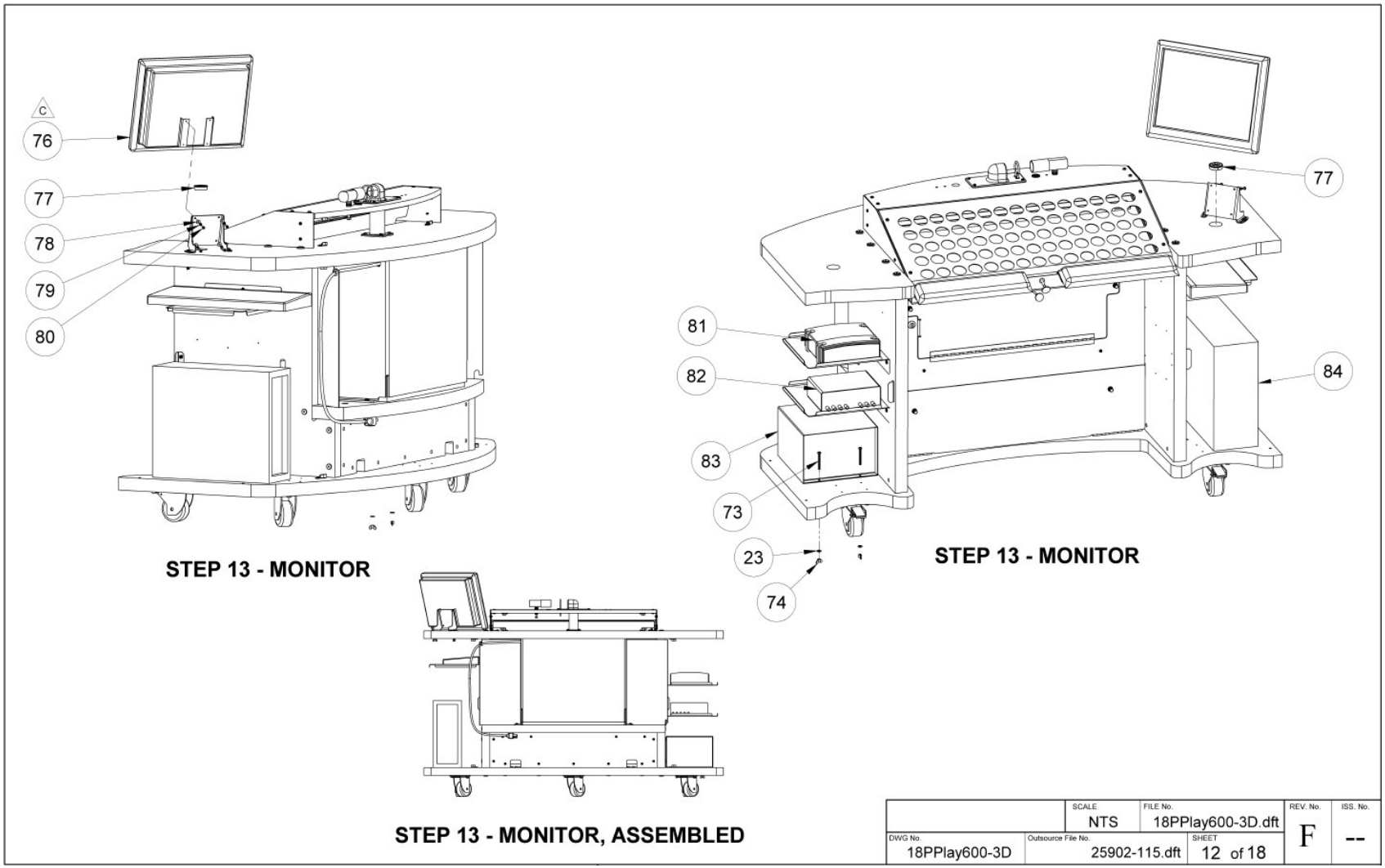


STEP 12 - CAMERA TOP ASSEMBLY



STEP 12 - CAMERA TOP, ASSEMBLED

	SCALE	FILE No.	REV. No.	ISS. No.
	NTS	18PPlay600-3D.dft	F	--
DWG No. 18PPlay600-3D	Outsource File No. 25902-115.dft	SHEET 11 of 18		


C
76
77
78
79
80
STEP 13 - MONITOR
81
82
83
73
23
74
77
84
STEP 13 - MONITOR
STEP 13 - MONITOR, ASSEMBLED
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
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DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
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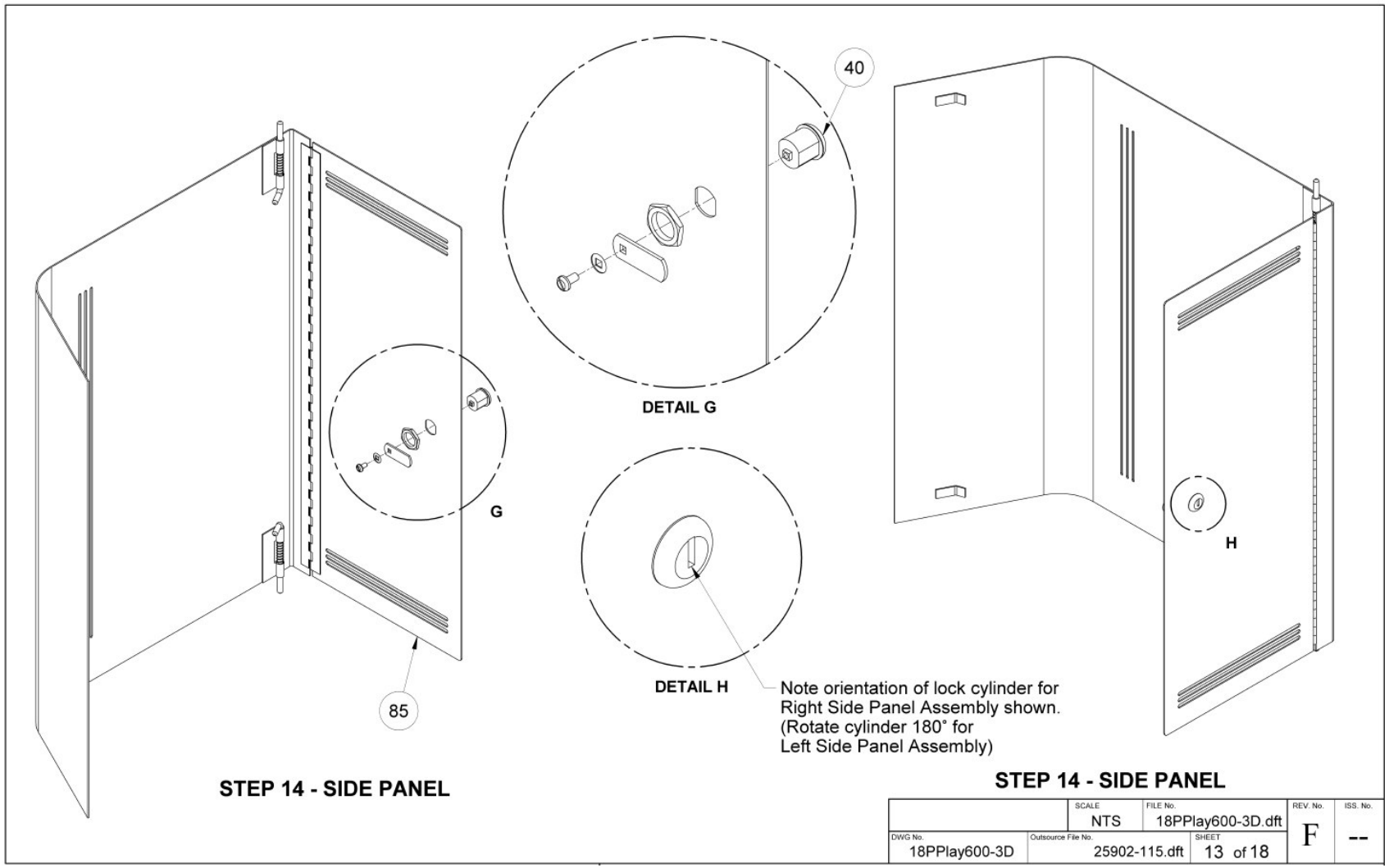
40
DETAIL G
G
85
DETAIL H
H
Note orientation of lock cylinder for
Right Side Panel Assembly shown.
(Rotate cylinder 180° for
Left Side Panel Assembly)
STEP 14 - SIDE PANEL
STEP 14 - SIDE PANEL
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
--
DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
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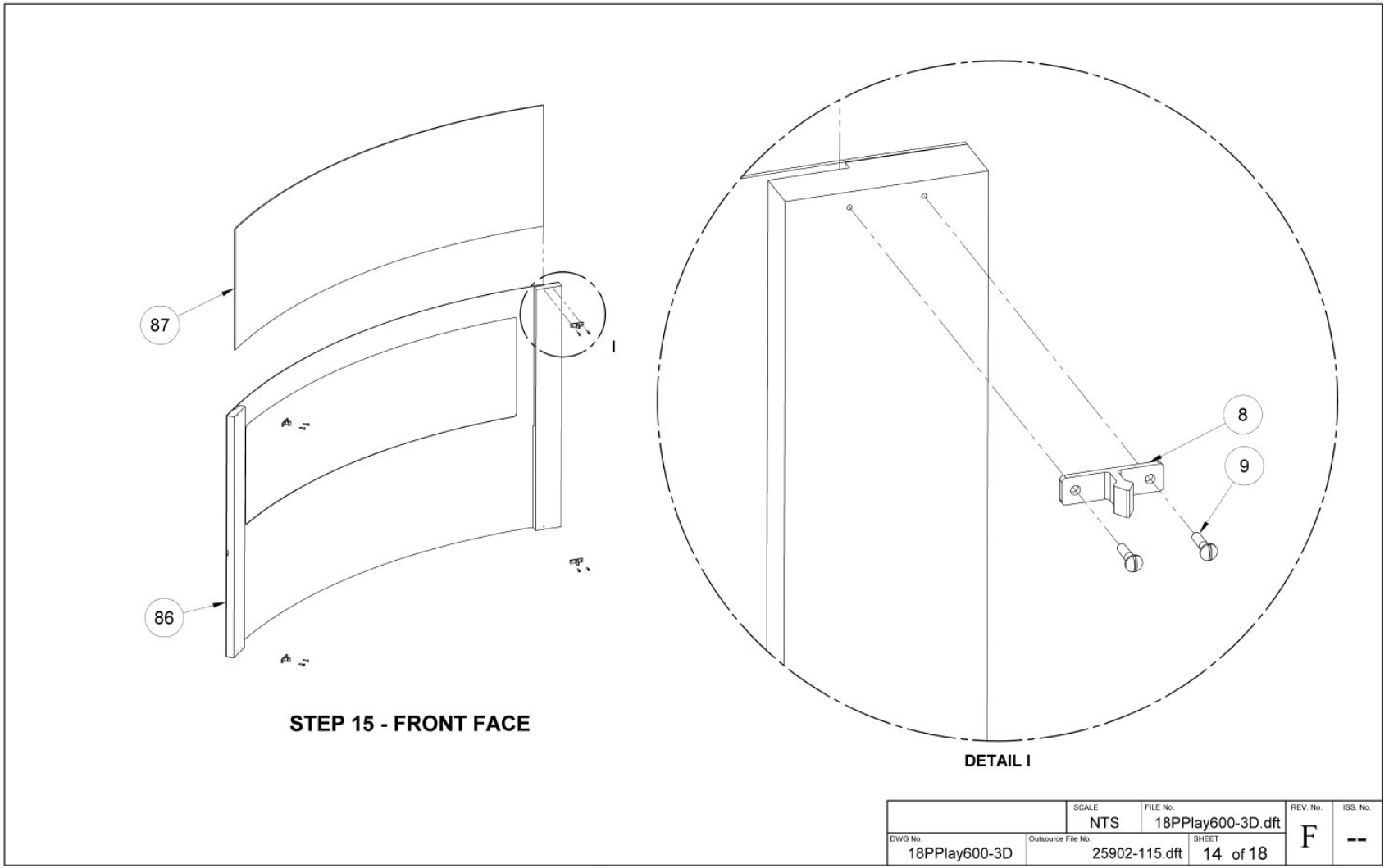
87
86
I
8
9
STEP 15 - FRONT FACE
DETAIL I
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
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DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
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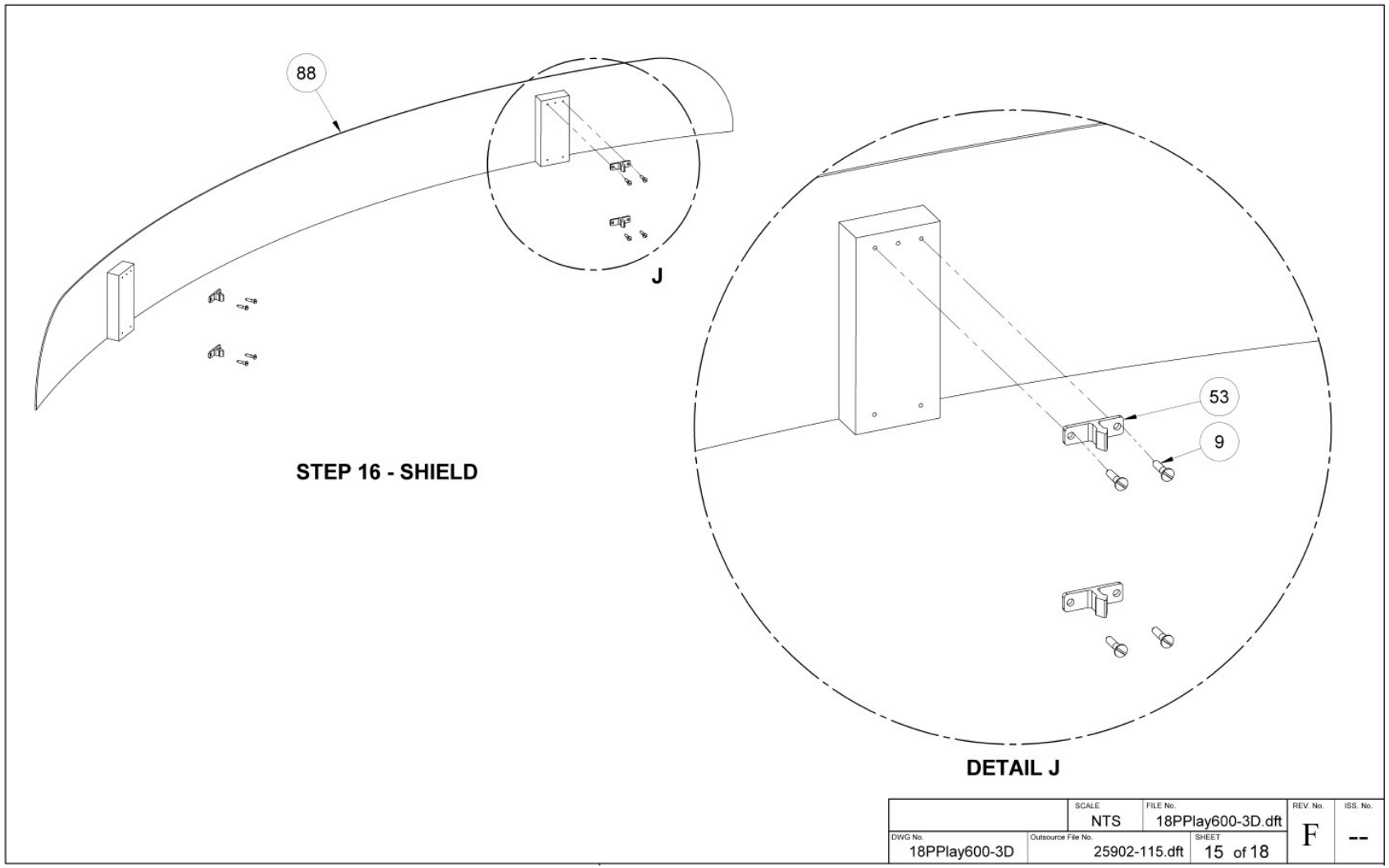
88
J
53
9
STEP 16 - SHIELD
DETAIL J
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
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DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
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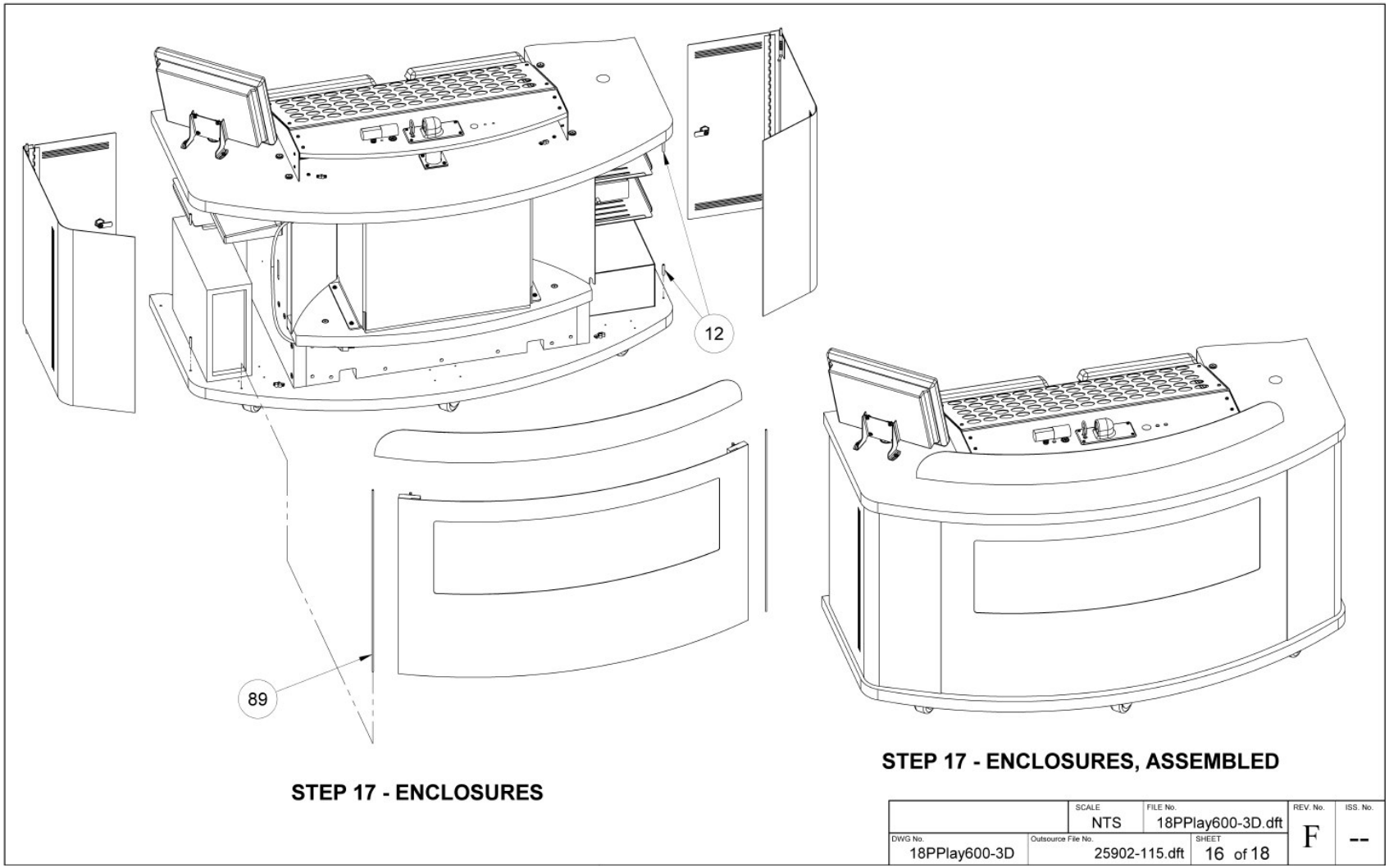
12
89
STEP 17 - ENCLOSURES
STEP 17 - ENCLOSURES, ASSEMBLED
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
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DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
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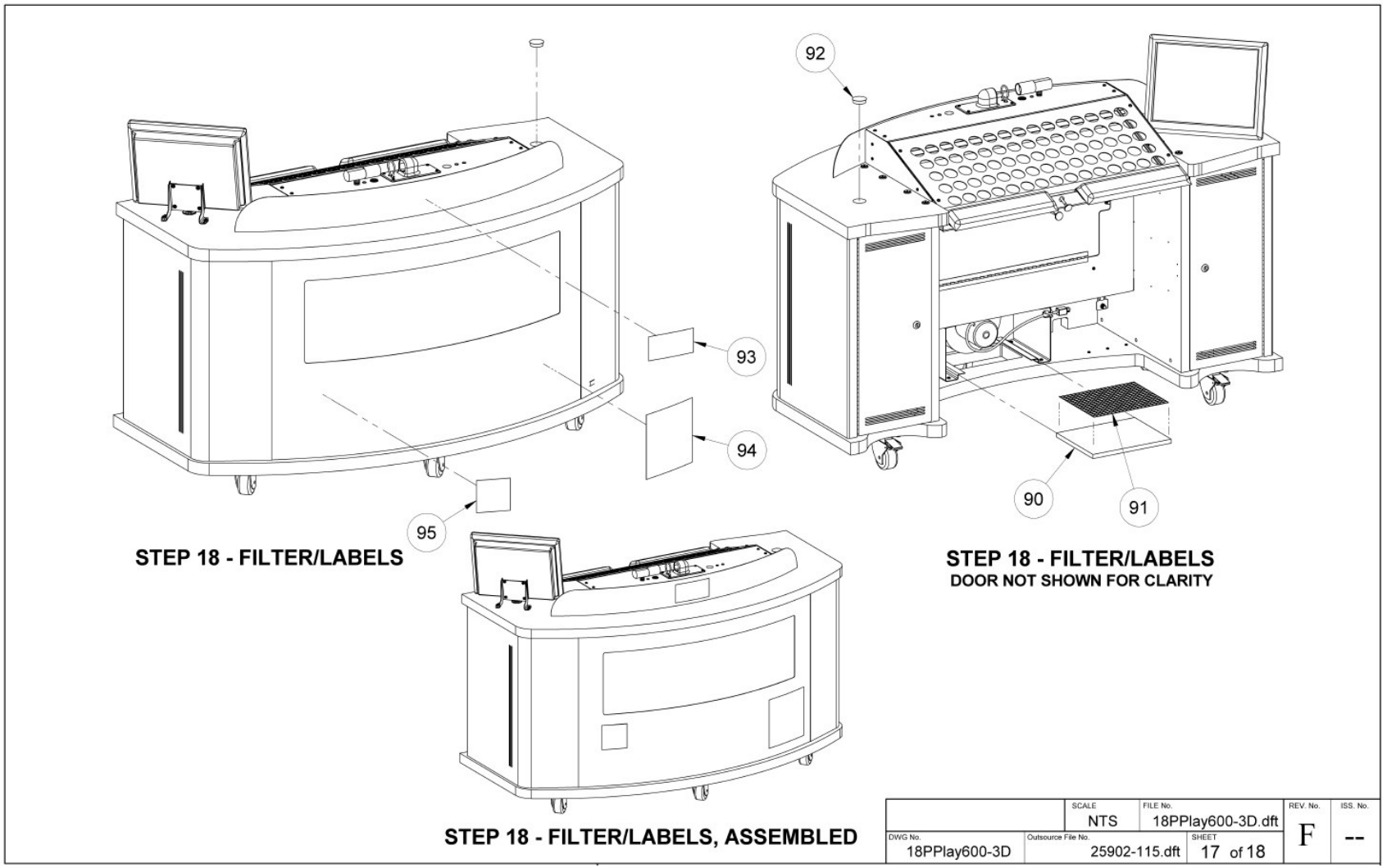
92
93
94
95
90
91
STEP 18 - FILTER/LABELS
STEP 18 - FILTER/LABELS
DOOR NOT SHOWN FOR CLARITY
STEP 18 - FILTER/LABELS, ASSEMBLED
SCALE
NTS
FILE No.
18PPlay600-3D.dft
REV. No.
F
ISS. No.
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DWG No.
18PPlay600-3D
Outsource File No.
25902-115.dft
SHEET
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Item	Description	Client Part No.	Qty	
1	BOTTOM PANEL	16000001-D	1	
2	CASTER, SWIVEL	16070004-A	3	
3	CASTER, SWIVEL LOCKABLE	16070005-A	2	
4	LOCK WASHER SPRING 5/16 ID	16000021-A	20	
5	LAG SCREW 5/16" x 1-1/2 LG	16000020-A	20	
6	BLOWER DOOR ASSEMBLY	16330008-B	1	
7	WOOD SCREW, PAN HD, COMBO #8 x 0.75 LG, ZINC PLTD	16070025-A	9	
8	ROTARY CATCH, LARGE	16070028-A	4	
9	WOOD SCREW, PAN HD, SLOTTED #4 x .500 LG	16070001-A	32	
10	SIDE PANEL	16000005-B	2	
11	CENTER BRACE	16000003-B	1	
12	DOWEL, WOOD GROOVED, 0.250 DIA. x 1.5 LG	16070009-A	12	
13	CROSS DOWEL, 1/2-20UNC	16070018-A	33	
14	WASHER FLAT .375 ID x .875 OD x .104 THK, STEEL BLACK LUSTER FINISH	16070033-A	14	
15	JOINT CONNECTOR BOLT, 1/4-20UNC x 2.750LG	16070020-A	33	
16	MID PANEL	16000004-D	1	
17	BLOWER ENCLOSURE ASSEMBLY	16330009-B	2	
18	WOOD SCREW, PAN HD, COMBO #10 x 1.00 LG, ZINC PLTD	16070015-A	41	
19	JOINT CONNECTOR BOLT, 1/4-20UNC x 2.000LG	16070019-A	4	
20	BRACKET QUARTER TURN FASTENER	16000010-B	2	
21	QUARTER TURN FASTENER	16000011-A	4	
22	BALL CHAMBER	16010001-B	1	F
23	WASHER, FLAT #10 x .500 OD, STEEL ZINC PLTD	16070017-A	10	
24	SCREW, MACHINE, PAN HD, PHILLIPS, #8-32UNC-0.375LG, BLACK OXIDE	16070014-A	30	E
25	BACKFACE ASSEMBLY	16330006-B	2	
26	MOTOR BASE ASSEMBLY METAL	10337612	1	
27	STRAIN RELIEF BUSHING, HEYCO SR 6P3-4	16070008-A	2	
28	KNOCK-OUT ADAPTER, HEYCO A-25F	16000012-A	1	
29	LAMP ASSEMBLY	1708F001	1	
30	CORD 120 VAC 15 AMP, 2W GRND, 6 FT	1010P018	1	
31	GROMMET 5/16 ID 9/16 OD 1/16" PANEL THK	16000015-A	1	
32	TOP PANEL	16000006-E	1	
33	BULB FLOURESCENT, WHITE	1708L001	1	
34	ACCESSORY SHELF	16050027-A	3	
35	STRIKER	16000009-A	2	
36	BRACKET ASSEMBLY, BALL RAIL, RIGHT	16330022-A	1	D E
37	BRACKET ASSEMBLY, BALL RAIL, LEFT	16330021-A	1	D E
38	BRACKET SHAPED ADAPTER, BALL RAIL	16330020-A	2	
39	DEFLECTOR	16050022-A	1	E
40	COLLECTOR TRAY	16050020-B	1	
41	BALL CHAMBER BACKFACE ASSEMBLY	16330007-B	1	
42	CAM LOCK w/2 KEYS	1708K001	3	
43	MASTER PANEL ASSEMBLY	1734105	1	
44	SCREW, MACHINE, PAN HD, PHILLIPS, #10-24 x 0.375LG, BLACK OXIDE	16070012-A	4	
45	THREADED ROD #8-32UNC x 2-1/2 LG STEEL ZNC PLTD	16000007-A	1	
46	SPACER ALUMINUM PLAIN	16000008-A	1	
47	KNOB CHROME #8-32UNC	1007K001	2	
48	BRACKET ARMREST	1705057	2	
49	PAD ARMREST POWERPLAY	1703P001	2	
50	ACTUATOR CONTROL, TRAP DOOR	16050024-B	1	
51	ROD CLIP	16070024-A	1	
52	CAMERA PANEL	16000002-E	1	
53	ROTARY CATCH, SMALL	16070027-A	4	
54	WASHER RUBBER NEOPRENE 1/4 ID	16000025-A	5	
55	BALL TUBE	16010002-A	1	
56	GASKET, BALL CHUTE	16030001-A	1	
57	BALL CHUTE RETAINER	16050019-A	1	
58	BALL CONE	1001P009	1	
59	HEX HEAD BOLT, 1/4-20UNC X 2 LG GR5 ZINC PLTD	16000023-A	1	
60	NUT HH 1/4-20UNC GR2 ZINC PLTD	16000022-A	1	
61	WASHER PLAIN 1/4" ID ZINC PLATED	16000024-A	1	
62	NTSC CAMERA	16370003-B	1	
63	NTSC CAMERA, AUTO IRIS LENS	16370005-A	1	
64	UNIVERSAL BUSHING 7/8" HOLE DIA., BLACK	16000027-A	1	
65	BALL CATCH PLATE	16050029-A	1	
66	BALL CATCH BLACK VINYL	1701024	1	

Item	Description	Client Part No.	Qty	
67	WOOD SCREW, PAN HD, PHILLIPS #8 x 0.50 LG, BLACK OXIDE	16000026-A	4	
68	BALL STOP CHROME	1005M115	1	
69	PRY OUT PLUG, 1/4" ID, BLACK	16070035-A	3	
70	THICK PANEL DOME PLUG, 7/8" ID, BLACK	16070034-A	1	
71	SCREW, MACHINE, PAN HD, PHILLIPS, #10-24 x 0.75LG, BLACK OXIDE	16070013-A	4	
72	MOUNTING BRACKET, MONITOR	16050023-A	1	
73	SCREW, MACHINE, PAN HD, PHILLIPS, #10-24 x 2.000LG, ZN PLTD	16070029-A	4	
74	NUT, WING #10-24UNC, ZINC PLTD	16070030-A	4	
75	COVER, BALL RAIL BRACKET	16050021-A	2	
76	PYRAMID DISPLAY	1736M600	1	C
77	OPEN/CLOSED UNIVERSAL BUSHING, 1-1/2" ID, BLACK	16000014-A	1	
78	WASHER PLAIN 4M ZINC PLTD	16000018-A	4	
79	WASHER SPRING LOCK 4mm ID ZINC PLTD	16000017-A	4	
80	MACHINE SCREW PHILLIPS PAN HD, M4.0-0.7P x 12LG ZINC PLTD	16000019-A	4	
81	5 PORT LINKSYS NETWORK SWITCH	192254	1	
82	VIDEO SWITCH	12VIDMUX	1	
83	I/O BOX ASSEMBLY	17600001	1	
84	COMPUTER 500 SERIES, KEYBOARD, MOUSE	1734113-A	1	
85	SIDE ACCESS PANEL ASSEMBLY	16330014-B	2	
86	FRONT FACE ASSEMBLY	16330012-B	1	
87	WINDOW	16010003-A	1	
88	FRONT SHIELD ASSEMBLY	16330013-B	1	
89	ROD, SIDE PANEL HINGE	16050025-A	2	
90	AIR FILTER	16030002-A	1	
91	AIR FILTER RETAINER	16330019-A	1	
92	THICK PANEL DOME PLUG, 1-1/2" ID, BLACK	16000016-A	1	
93	HP CUT VINYL 2/COLOR VIDEO KING	1044D600-A	1	
94	HP CUT VINYL 2/COLOR DECAL - POWER PLAY	1044D601-A	1	
95	HP CUT VINYL 2/COLOR DECAL - BEL AIR	1044D602-A	1	
96	TILT MONITOR STAND, OPTIONAL	16370006-A	1	
97	RIBBON CABLE ASSEMBLY	16840003-A	1	
98	3' CAT 5e LAN CABLE	16840001-A	2	
99	NTSC CAMERA, DC ADAPTER FOR SONY ExView	16370004-A	1	
100	BNC FEMALE TO PHONO PLUG	16130002-A	1	
101	EXTENSION CORD w/GROUNDED PRONG, 6 FT	16370001-A	1	
102	BINGO BALLS TITAN BEST, MULTI 75/ST	6373014-43	1	
103	POWER BLOCK (not shown)		1	
104	75 ohm BNC MALE TO MALE RG 59 CABLE	16840002-A	2	B
105	MOTOR BASE ASSY METAL w/FOAM	10337615	1	
106	MOTOR W/PLUG 7000	10337110	1	
107	LOCK WASHER INT #10 ZP	1025I010	4	
108	SCREW MACHINE #10-24 x 1/2 PHIL PHD ZP	1023M924	4	

B **Note:**
1. Items 96 thru 104 are not shown in any illustration. Refer to the wiring diagram.

	SCALE	FILE No.	REV. No.	ISS. No.
	NTS	18PPlay600-3D.dft	F	--
DWG No. 18PPlay600-3D	Outsource File No. 25902-115.dft	SHEET 18 of 18		

Appendix: Motor Replacement

Step 1: Remove Ball Release Knob

This is only hand tightened so no tools should be necessary

Step 2: Remove screws from the Master Panel

There are 4 Phillips screws – 2 on each side

Step 3: Remove the Master Panel

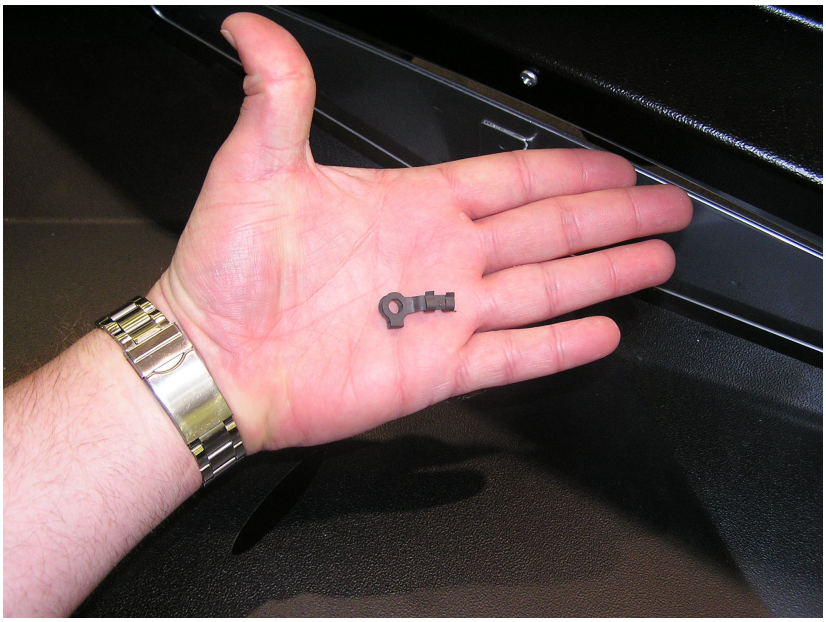
Pull the Master Panel up and out and disconnect the 26 pin ribbon cable on the right hand side

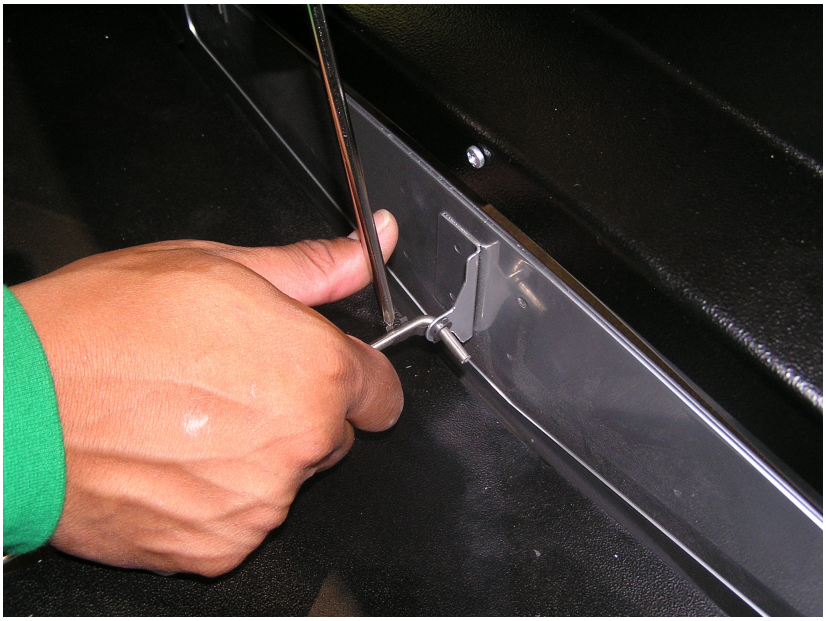
Step 4: Loosen the Screws on the black Ball Deflector

Only loosen the 3 screws on the deflector. The Ball Door Assembly slides underneath the deflector so the tension will have to be released.

Step 5: Remove the Ball Release Lever

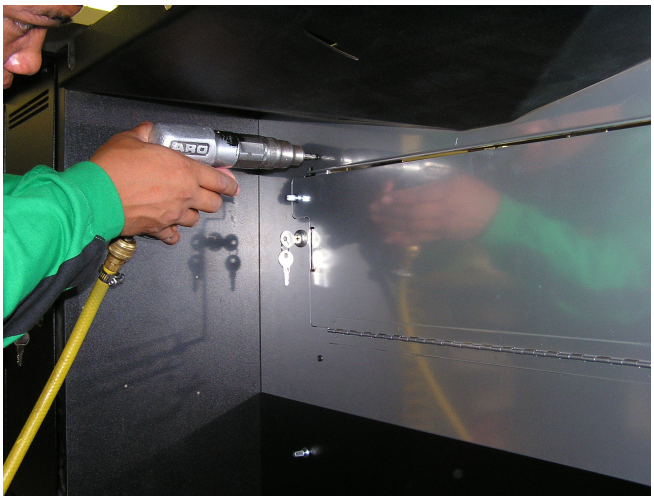
Use a flat head screwdriver or needle-nose pliers to remove the retainer clip from the lever, and then completely remove the lever.



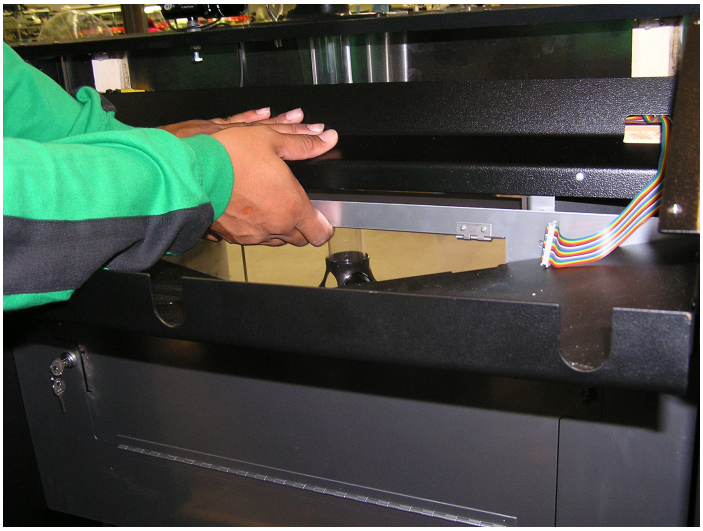


Step 6: Remove the Ball Door Assembly

There are 6 screws to remove – 3 on each side. You may also want to put something underneath to support the door so it doesn't fall.

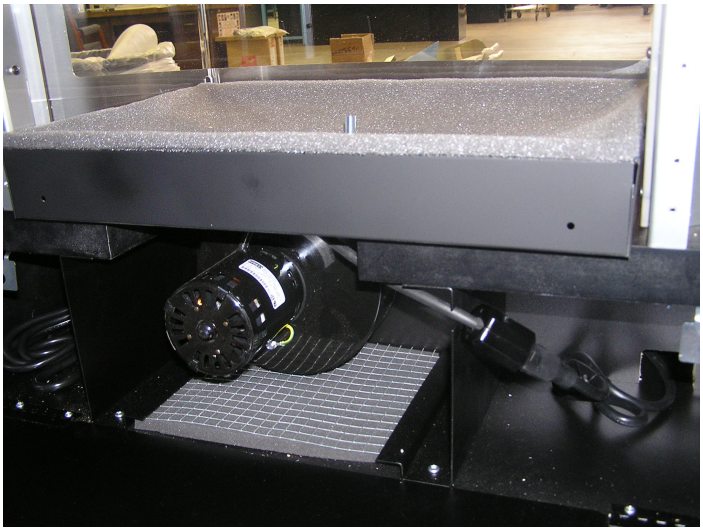


Be sure to carefully guide the door down and out away from the desk



Step 7: Remove the Motor/Tray Assembly

Unplug the motor from the extension cord and lift up and out careful not to scratch or crack the plexiglass ball chamber enclosure.



Complete steps in reverse order for reassembly. Do not forget to re-tighten the 3 screws on the Ball Deflector.